

Advisory Committee Fall 2020 Agenda

HVAC

11:30am – Thursday, November 12, 2020 – Vernon College Skills Training Center
Multipurpose Room 400

Members:

Ryan Ellett, Ellett Air Conditioning
Robb Havens, James Lane AC
Chris Johns, Mike Graham Heating and AC
Cindy McCloud, Texoma Heating and AC
Lee Ritchie, Texoma Heating and AC

Vernon College faculty/staff:

Michelle Downes
Shana Drury
Chelsey Henry
Mark Holcomb
Amanda Jasso
Scott McClure

Members not present:

Bin Ellett
Eddie Johnson

Scott McClure welcomed the committee and began introductions.

Shana Drury reviewed the purpose of the committee and asked for nominations or volunteers for vice chair and recorder.

Chair: Chris Johns
Vice-Chair: Robb Havens
Recorder: Cindy McCloud

Old Business/Continuing BusinessChris Johns

Chris Johns began the meeting with old business.

Scott McClure reviewed the following information.

Continuing business – Scott McClure retired from teaching the continuing education class for HVAC contractors this fall.

Continuing business - Been working on using the Canvas software, online class stuff, loading work for students to do. The lock down last spring brought the value of Canvas to the forefront. We still have to do hands-on lab work but there are a lot off opportunities that the on-line ability provides.

Mark Holcomb asked if the committee preferred to do their CE online.

Lee Richie asked if Mark Holcomb had talked with Joe Davis about taking over the face to face continuing education course.

Chris Johns stated that he preferred to do his online. It allowed him to work at his own pace if he needed to stop for a call he would be able to stop and come back.

Mark Holcomb stated he would investigate both options.

New BusinessChris Johns

❖ **Review program outcomes, assessment methods/results, and workplace competency**

Chris Johns asked the faculty member to briefly review the program outcomes with the committee.

Scott McClure reviewed the following program outcomes.

Program outcomes

1. Analyze airflow, refrigerant flow, and electron flow to evaluate the operating efficiency of air conditioning systems; diagnose problems/inefficiencies; and make necessary adjustments and/or perform service repairs as needed.
2. Analyze airflow, refrigerant flow and electron flow to evaluate the operating efficiency of heat pumps; diagnose problems/inefficiencies; and make necessary adjustments and/or perform service repairs as needed.
3. Analyze airflow, gas flow and electrical flow to evaluate the operating efficiency of gas fired heating systems; diagnose problems/inefficiencies; and make necessary adjustments and/or perform service repairs as needed.
4. Evaluate the installation of air conditioning and heating units and associated ductwork as well as understand unit loads for optimum efficiency.
5. Recover charge and vacuum refrigeration systems to proper levels.

Robb Havens asked what are you trying to get out of analyzing airflow.

Scott McClure stated that he focused more from a technician's point of view. Using the duct calculator and gauges. Air flow is one of the hardest parts to measure.

❖ **Approve program outcomes**

Chris Johns asked the committee for the motion to approve the program outcomes as presented.

Lee Ritchie made a motion to approve the program outcomes as presented.

Robb Havens seconded the motion.

The motion has passed and the committee will approve the program outcomes as presented.

❖ **Approve assessment methods and results**

Chris Johns asked the faculty member, Scott McClure, to explain in more detail the assessment methods and results.

Students are assessed over classroom theory by mid-terms, finals, and pop quizzes. Students are assessed over lab work by completing the labs required, which entail gathering data while operating the equipment and writing the data down on competencies used from the lab book, answering questions posed by the instructor while with the equipment, and defining sequence of operation, and finally by reviews back in the classroom over applying theory to practical applications performed in the lab.

*Chris Johns asked the committee for a motion to approve the assessment methods as presented.
Robb Havens made a motion to approve the assessment methods as presented.
Lee Ritchie seconded the motion.*

The motion passed and the committee will approve the assessment methods as presented.

❖ **Approval of workplace competency (course or exam)**

Chris Johns asked the faculty member, Scott McClure, to please tell the committee about the competency and how the students have performed on the competency.

HART 2436 Air Conditioning Troubleshooting is the capstone course for the HVAC program. In this class all previous classes are reviewed and lab competencies are performed to demonstrate student achievement of required skills. Students repeat the skills until an acceptable level is reached, making for a 100% pass rate, the program had 9 students in the HART 2436 class from the fall of 2019 with 8 in the spring of 2020 all passing with A's, except one who received a B.

The lab competencies are attached to the program outcomes.

1. Analyze airflow, refrigerant flow, and electron flow to evaluate the operating efficiency of air conditioning systems; diagnose problems/inefficiencies; and make necessary adjustments and/or perform service repairs as needed.
 - a. Lab competency to be followed is – comp 1-a, air conditioner system performance worksheet.
2. Analyze airflow, refrigerant flow and electron flow to evaluate the operating efficiency of heat pumps; diagnose problems/inefficiencies; and make necessary adjustments and/or perform service repairs as needed.
 - a. Lab competency to be followed is – comp 1-a, air conditioner system performance worksheet.
3. Analyze airflow, gas flow and electrical flow to evaluate the operating efficiency of gas fired heating systems; diagnose problems/inefficiencies; and make necessary adjustments and/or perform service repairs as needed.
 - a. Lab competency to be followed is – lab 1-b, gas furnace jobsite information sheet.
4. Evaluate the installation of air conditioning and heating units and associated ductwork as well as understand heat loads for optimum efficiency.
 - a. Lab competency to be followed is – lab 1-c, HVAC system QI checklist.
5. Recover charge and vacuum refrigeration systems to proper levels.
 - a. Lab competencies to be followed are – comp 55, active method of recovery and comp 60, evacuating and air conditioning system.

Program Outcome	Number of students who took course or licensure exam	Results per student	Use of results
1. See above	17	All passed	Continue what is being done.
2. See above	17	All passed	
3. See above	17	All passed	
4. See above	17	All passed	
5. See above	17	All passed	

Verification of workplace competencies:

Certificate and A.A.S.

Capstone Experience: HART 2436 Air Conditioning Troubleshooting or HART 2468 Practicum (or Field Experience) – Heating, Air Conditioning, and Refrigeration Technology/Technician

Chris Johns asked the committee for a motion to approve the workplace competency as presented.

Ryan Ellett made a motion to approve the workplace competency as presented.

Robb Havens seconded the motion.

The motion passed and the committee will approve the workplace competency as presented.

❖ **Program Specific Accreditation Information and Requirements (if applicable)**

PAHRA accredited

❖ **Review program curriculum/courses/degree plans**

Chris Johns asked the faculty member, Scott McClure, to please discuss with the committee on the program's curriculum and degree plans for 2021-2022.

Shana Drury reviewed the addition to the LEAD1100 course. After a comprehensive local needs assessment employers (100%) and faculty agreed that this course would be a good addition to all Career and Technical Education courses. After taking this course, Workforce Development with Critical Thinking, the students are able to test for a certificate of work ethics from the Center of Work Ethics. This course will be offered in the fall for all Career and Technical Education programs. The addition of this course will add one credit hour to the certificate and to add it into the A.A.S. the electives have decreased by 1 credit hour.

Chris Johns stated that he thought this would be a great addition.

Lee Ritchie stated he was a huge supporter of this course.

Heat, Ventilation, and Air Conditioning, Level 1 Certificate

CIP 15.0501

Instructional Location - Skills Training Center

CERTIFICATE OF COMPLETION (Probable Completion Time – 9 months or 32 weeks)

Major Requirements (36 SH)

HART 1401	Basic Electricity for HVAC	4
	or	
ELPT 1411	Basic Electrical Theory (A)	4
LEAD 1100	Workforce Development with Critical Thinking	1
HART 1403	Air Conditioning Control Principles	4
HART 1407	Refrigeration Principles	4
HART 1441	Residential Air Conditioning	4
HART 1445	Gas and Electric Heating	4
HART 2434	Advanced Air Conditioning Controls	4
HART 2436	Air Conditioning Troubleshooting	4
HART 2441	Commercial Air Conditioning	4
HART 2449	Heat Pumps	4
	or	
HART 2468	Practicum (or Field Experience) - Heating, Air Conditioning, and Refrigeration Technology/Technician	4
	Total Credit Hours:	37

(A) Course included on the State's Advanced Technical Credit list. (See Advanced Technical Credit.)

Heat, Ventilation, and Air Conditioning,

A.A.S.

CIP 15.0501

Instructional Location - Skills Training Center

ASSOCIATE IN APPLIED SCIENCE DEGREE (Probable Completion Time - 2 years)

General Education Requirements (15 SH)

ENGL 1301	Composition I	3
GOVT 2305	Federal Government (Federal Constitution and Topics)	3
MATH 1314	College Algebra	3
	or	
MATH 1332	Contemporary Mathematics	3
SPCH 1315	Public Speaking	3
SFF>	Language, Philosophy, and Culture or Creative Arts Elective	3

Major Requirements (45 SH)

HART 1401	Basic Electricity for HVAC	4
	or	
ELPT 1411	Basic Electrical Theory (A)	4
LEAD 1100	Workforce Development with Critical Thinking	1
HART 1403	Air Conditioning Control Principles	4
HART 1407	Refrigeration Principles	4
HART 1441	Residential Air Conditioning	4
HART 1445	Gas and Electric Heating	4
HART 2434	Advanced Air Conditioning Controls	4
HART 2436	Air Conditioning Troubleshooting	4
	or	
HART 2468	Practicum (or Field Experience) - Heating, Air Conditioning, and Refrigeration Technology/Technician	4

HART 2441	Commercial Air Conditioning	4
HART 2449	Heat Pumps	4
TBA*	Electives	8
	Total Credit Hours:	60

* Approved electives to be selected from the following courses: COSC 1301 or ITSC 1301(A) or BCIS 1305, ELPT 1441, ITNW 1325 (A), WLDG 1428 (A), or course approved by instructor.
 > To be selected from the following: ARTS 1301, DRAM 1310, DRAM 2366, ENGL 2322, ENGL 2323, ENGL 2327, ENGL 2328, ENGL 2332, ENGL 2333, HIST 2311, HIST 2312, MUSI 1306 (A) Course included on the State's Advanced Technical Credit list. (See Advanced Technical Credit.)

Course descriptions and learning outcomes provided as a separate document.

❖ **Approve program revisions (if applicable)**

*Chris Johns asked the committee for a motion to approve the program revisions as presented.
 Robb Havens made a motion to approve the program revisions as presented.
 Cindy McCloud seconded the motion.*

The motion passed and the committee will approve the program revisions as presented.

*Lee Ritchie asked if a couple organizations could go in together and do the training.
 Shana Drury stated that they could and if could be offered at Skills Training Center or at their location.*

❖ **Approve SCANS, General Education, Program Outcomes, and Institutional Outcome Matrices.**

*Chris Johns asked the faculty member to review the matrices with the committee.
 Scott McClure reviewed the matrices below.*

SCANS Matrix: The SCANS (Secretary’s Commission on Achieving Necessary Skills) Matrix represents the 8 Federal requirements that must be taught. The matrix shows how we are mapping them back to each of the courses in the program.

Program: Heating, Ventilation, and Air Conditioning								Credential: Associate in Applied Science (AAS) Degree	
Award: Heating, Ventilation, and Air Conditioning Associate in Applied Science (AAS) Degree									
Cip: 15.0501									
LIST OF ALL COURSES REQUIRED AND IDENTIFIED COMPETENCIES									
SCANS COMPETENCIES								Course Number	Course Title
1	2	3	4	5	6	7	8		
X	X	X	X	X	X	X	X	HART 1401* or	Basic Electricity for HVAC
X	X	X	X	X	X	X	X	ELPT 1411	Basic Electrical Theory
X	X	X	X	X	X	X	X	HART 1403*	Air Conditioning Control Principles
X	X	X	X	X	X	X	X	HART 1407*	Refrigeration Principles
X	X	X	X	X	X	X	X	HART 1441*	Residential Air Conditioning
X	X	X	X	X	X	X	X	HART 1445 *	Gas and Electric Heating
X	X	X	X	X	X	X	X	HART 2434*	Advanced A/C Controls
X	X	X	X	X	X	X	X	HART 2436* or	Air Conditioning Troubleshooting
X	X	X	X	X	X	X	X	HART 2441*	Commercial Air Conditioning
X	X	X	X	X	X	X	X	HART 2449*/ HART 2468*	Heat Pumps/Practicum (or Field Experience) - Heating, Air Conditioning, & Refrigeration Technology/Technician
									TBA Electives Either/ or
	X	X	X		X	X		ACNT 1325 or	Principles of Accounting
X	X	X	X		X	X		COSC 1301	Introduction to Computing
X	X	X	X		X	X		ITSC 1301	Introduction to Computers
X		X	X	X	X			ELPT 1441 or	Motor Control
X	X	X	X	X	X	X		ITNW 1325 or	Fundamentals of Networking Technologies
X	X	X	X	X	X	X		OSHT 1309 or	Physical Hazards Control
			X	X	X			WLDG 1428	Introduction to Shielded Metal Arc Welding (SMAW)
								8. BASIC USE OF COMPUTERS	
								7. WORKPLACE COMPETENCIES	
								6. PERSONAL QUALITIES	
								5. THINKING SKILLS	
								4. SPEAKING AND LISTENING	
								3. ARITHMETIC OR MATHEMATICS	
								2. WRITING	
								1. READING	

General Education Matrix: The General Education Matrix is state mandated. You will see the 6 requirements that the college is tasked with teaching and how they map back to the courses.

Program: Heating, Ventilation, and Air Conditioning							Credential: Associate in Applied Science (AAS) Degree
Award: Heating, Ventilation, and Air Conditioning Associate in Applied Science (AAS) Degree							
Cip: 15.0501							
LIST OF ALL COURSES REQUIRED AND IDENTIFIED CORE OBJECTIVES							
GENERAL EDUCATION CORE OBJECTIVES						Course Number	Course Title
1	2	3	4	5	6		
x	x		x		x	ENGL 1301	Composition I
x	x			x	x	GOVT 2305	Federal Government (Federal Constitution and Topics)
x	x	x				MATH 1314 or MATH 1332	College Math/Contemporary Mathematics I
x	x		x		x	SPCH 1315	Public Speaking
x	x	x	x	x	x	HART 1401 * or ELPT 1411	Basic Electricity for HVAC Basic Electrical Theory
x	x	x	x	x	x	HART 1403*	Air Conditioning Control Principles
x	x	x	x	x	x	HART 1407*	Refrigeration Principles
x	x	x	x	x	x	HART 1441*	Residential Air Conditioning
x	x	x	x	x	x	HART 1445 *	Gas and Electric Heating
x	x	x	x	x	x	HART 2434*	Advanced A/C Controls
x	x	x	x	x	x	HART 2436 * or	Air Conditioning Troubleshooting
x	x	x	x	x	x	HART 2441*	Commercial Air Conditioning
x	x	x	x	x	x	HART 2449*/ HART 2468*	Heat Pumps/ Practicum (or Field Experience) - Heating, Air Conditioning, & Refrigeration Technology/Technician
							TBA Electives Either/ or
x		x		x	x	ACNT 1325	Principles of Accounting
x		x		x	x	COSC 1301	Introduction to Computing
x		x		x	x	ITSC 1301	Introduction to Computers
x			x	x	x	ELPT 1441 or	Motor Control
x	x	x	x	x	x	ITNW 1325 or	Fundamentals of Networking Technologies
x	x		x	x	x	OSHT 1309 or	Physical Hazards Control
x	x			x	x	WLDG 1428	Introduction to Shielded Metal Arc Welding (SMAW)
						6. Personal Responsibility	
						5. Social Responsibility	
						4. Teamwork	
						3. Empirical and Quantitative Skills	
						2. Communication Skills	
						1. Critical Thinking Skills	

Program Outcomes Matrix: The Outcomes Matrix represents the Vernon College mandated requirements. They are the Program outcomes just approved and how they map back to the courses.

Program: Heating, Ventilation, and Air Conditioning							Credential: Associate in Applied Science (AAS) Degree
Award: Heating, Ventilation, and Air Conditioning Associate in Applied Science (AAS) Degree							
Cip: 15.0501							
LIST OF ALL COURSES REQUIRED AND OUTCOMES							
OUTCOMES						Course Number	Course Title
1	2	3	4	5	6		
		x	x	x	x	HART 1401* or	Basic Electricity for HVAC
x	x	x	x	x	x	HART 1403*	Air Conditioning Control Principles
		x	x	x	x	ELPT 1411	Basic Electrical Theory
x	x	x		x	x	HART 1407*	Refrigeration Principles
x	x	x			x	HART 1441*	Residential Air Conditioning
		x	x	x		HART 1445 *	Gas and Electric Heating
					x	HART 2434*	Advanced A/C Controls
x	x	x	x	x	x	HART 2436*	Air Conditioning Troubleshooting
x	x	x	x		x	HART 2441*	Commercial Air Conditioning
x	x	x		x	x	HART 2449*/HART 2468*	Heat Pumps/ Practicum (or Field Experience) - Heating, Air Conditioning, & Refrigeration Technology/Technician
							9 hours of Electives
						6. Analyze airflow, refrigerant flow, and electron flow to evaluate the operating efficiency of air conditioning systems; diagnose problems/inefficiencies; and make necessary adjustments and/or perform service repairs as needed.	
						5. Analyze airflow, refrigerant flow and electron flow to evaluate the operating efficiency of heat pumps; diagnose problems/inefficiencies; and make necessary adjustments and/or perform service repairs as needed.	
						4. Analyze airflow, gas flow and electrical flow to evaluate the operating efficiency of gas fired heating systems; diagnose problems/inefficiencies; and make necessary adjustments and/or perform service repairs as needed.	
						3. Evaluate the installation of air conditioning and heating units and associated ductwork as well as understand heat loads for optimum efficiency.	
						2. Recover charge and vacuum refrigeration systems to proper levels	
						1. Understand and apply current laws and procedures associated with section 608 of the Clean Air Act	

Institutional Outcomes Matrix: The Institutional Outcomes Matrix represents the Vernon College mandated requirements. This matrix represents how the program outcomes map back to the institutional outcomes/general education outcomes.

Program: Heating, Ventilation, and Air Conditioning						Credential: Associate in Applied Science (AAS) Degree
Award: Heating, Ventilation, and Air Conditioning Associate in Applied Science (AAS) Degree						
Cip: 15.0501						
LIST OF ALL COURSES REQUIRED AND OUTCOMES						
OUTCOMES						General Education Outcomes
1	2	3	4	5	6	
x	x	x	x	x	x	1. Critical Thinking Skills
x	x	x	x	x	x	2. Communication Skills
x	x	x	x	x	x	3. Empirical and Quantitative Skills
	x	x	x	x	x	4. Teamwork
x	x	x	x	x	x	5. Social Responsibility
x	x	x	x	x	x	6. Personal Responsibility
						Analyze airflow, refrigerant flow, and electron flow to evaluate the operating efficiency of air conditioning systems; diagnose problems/inefficiencies; and make necessary adjustments and/or perform service repairs as needed.
						Analyze airflow, refrigerant flow and electron flow to evaluate the operating efficiency of heat pumps; diagnose problems/inefficiencies; and make necessary adjustments and/or perform service repairs as needed.
						Analyze airflow, gas flow and electrical flow to evaluate the operating efficiency of gas fired heating systems; diagnose problems/inefficiencies; and make necessary adjustments and/or perform service repairs as needed.
						Evaluate the installation of air conditioning and heating units and associated ductwork as well as understand heat loads for optimum efficiency.
						Recover charge and vacuum refrigeration systems to proper levels
						Understand and apply current laws and procedures associated with section 608 of the Clean Air Act

Chris Johns opened the floor for discussion and recommendations, hearing none Chris asked the committee for a motion to approve the matrices as presented.

Lee Ritchie made a motion to approve the matrices as presented.

Robb Havens seconded the motion.

The motion passed and the committee will approve the matrices as presented.

❖ **Program statistics: Graduates (from previous year/semester), current majors, current enrollment**

Chris Johns asked the faculty member, Scott McClure, to please discuss the program statistics with the committee.

Scott McClure reviewed the following information with the committee.

- Program Statistics:
 - Graduates 2019-2020: 17
 - Enrollment Summer 2020: 6
 - Majors Fall 2020-2021: 30
 - Enrollment Fall 2020: 69

Chris Johns asked how many students left if they get a job during the program.

Scott McClure stated that normally not too many. The only thing that happens is sometimes they will be on a job and be late for class.

❖ **Local Demand**

Chris Johns we are always looking and there are always jobs to fill.

Lee Ritchie stated if someone rolled through the door today he would hire them even though he is not looking today. It would allow them to get some good training through the winter.

❖ **Evaluation of facilities, equipment, and technology. Recommendation for acquisition of new equipment and technology.**

Chris Johns reminded the committee if they have not done so the faculty would be happy to show the committee the lab facilities after the meeting.

Chris Johns asked if there was any discussion or recommendations for new equipment.

Chris Johns stated that some of the students have stated that they are working on many things in the lab that are not what is out in the field today, the lab equipment is dated.

Ryan Ellett stated there was lots of new equipment that the lab does not have such as ductless, minisplits, multi zones, ceiling cassettes, wall mounts, VRF system, LP unit, natural gas, three phase unit and multiple volt units..

Lee Ritchie stated 90% of the lab equipment is old.

Chris Johns stated that they might have some newer technology that they could donate to the program. Chris also stated that the program probably only needed one natural draft furnace.

Scott McClure stated that he would be happy for the committee to come through and mark things that need to be replaced.

❖ **External learning experiences, employment, and placement opportunities**

“Vernon College offers a job board on the website. Businesses can contact Chelsey Henry, Coordinator of Career Services, chenry@vernoncollege.edu, to add jobs or you can post yourself. VC also subscribes to a service called GradCast. Within this program, over 600,000 business and industry contacts are available to the graduates to send up to 100 free resumes within a set zip code. If you would like to have your business as part of that database, please contact Judy Ditmore, jditmore@vernoncollege.edu.”

Placement Rate of Program Completers by Reporting Year [1]												
Program	2015-2016			2016-2017			2017-2018			3-Year Average		
	Plc	Cmp	%	Plc	Cmp	%	Plc	Cmp	%	Plc	Cmp	%
15050000-Environmental Control Technologies/ Technicians	10	11	90.91%	14	16	87.50%	15	16	93.75%	39	43	90.70%

Chris Johns asked the committee if there was any further discussion, hearing none Chris moved on to professional development.

❖ **Professional development of faculty and recommendations**

Chris Johns asked the committee to please take time to review the professional development opportunities the faculty has attended.

- YouTube videos
- Webinars
- Trade magazines
- Internal distance learning trainings

Chris Johns asked the committee if there is any discussion or do you have any recommendations for professional development for the staff, hearing none Chris moved to promotion and publicity.

❖ **Promotion and publicity (recruiting) about the program to the community and to business and industry**

Chris Johns asked the committee to please take time to review the promotion and publicity.

Due to COVID no tours out here so relying on graduating students, current students, and TV ads. Recruiting is giving presentations to any schools currently allowing visitors. A series of seven Career and Technical Education posters are being delivered to all area high schools.

Amanda Jasso announced the addition of the of the virtual preview days for spring 2021 and possibly fall 2022.

Chris Johns asked if there was any further discussion or recommendations, hearing none Chris moved to serving students from special populations.

❖ **Serving students from special populations:**

Chris Johns asked the committee to please note the federal definition of special populations below.

1. Special populations new definitions:
 - a. Individuals with disabilities;
 - b. Individuals from economically disadvantaged families, including low-income youth and adults;
 - c. Individuals preparing for non-traditional fields; 1 female student
 - d. Single parents, including single pregnant women;
 - e. Out-of-workforce individuals;
 - f. English learners;
 - g. Homeless individuals described in section 725 of the McKinney-Vento Homeless Assistance Act (42 U.S.C. 11434a);
 - h. Youth who are in, or have aged out of, the foster care system; and
 - i. Youth with a parent who—
 - i. is a member of the armed forces (as such term is defined in section 101(a)(4) of title 10, United States Code);
 - ii. is on active duty (as such term is defined in section 101(d)(1) of such title).

Vernon College is an open enrollment college. The Proactive Assistance for Student Services (PASS) department offers many services for documented disabilities such as but not limited to quiet testing, longer testing times, interpreters, and special equipment.

Vernon College has a program titled “New Beginnings” for students who qualify to receive transportation, childcare, and/or textbook loans. Perkins funding is also offering assistance to break down barriers such as uniform, supply, equipment costs.

Peer to Peer mentoring, tutoring (online and in person), resume building, student success series, and counseling are just a few of the other options/services available to students.

Chris Johns asked if there was any further discussion, hearing none Chris Johns adjourned the meeting at 1:05pm

Recorder Signature – Cindy McCloud <i>Cindy McCloud</i>	Date <i>1/19/2021</i>	Next Meeting: Fall 2021
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