

# UAT 304: CRITICAL THINKING FOR THE SERVICE TECHNICIAN (UA 6068)

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## Completed Workflow

1. UATD Chair (mdonham@wccnet.edu)
2. AT Dean (krue@wccnet.edu,esamulski@wccnet.edu)
3. C&A Assistant (aabooker@wccnet.edu)
4. Curricular Systems Coordinator (cacevans@wccnet.edu)
5. C&A Coordinator (sabird@wccnet.edu)
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7. Before Comm review (aabooker@wccnet.edu)
8. Comm Review step (sabird@wccnet.edu)
9. After Comm review (sabird@wccnet.edu,bjlinford@wccnet.edu)
10. Curriculum Committee Chair (rvanwagnen@wccnet.edu)
11. Assessment Committee Chair (jhale15@wccnet.edu)
12. Before VPI (sabird@wccnet.edu)
13. Vice President for Instruction (eloubert@wccnet.edu; brtucker@wccnet.edu)
14. Banner (cacevans@wccnet.edu)

## Approval Path

1. 2026-05-03T17:38:39Z  
Marilyn Donham (mdonham): Approved for UATD Chair
2. 2026-05-03T18:01:59Z  
Kyrsten Rue (krue): Approved for AT Dean
3. 2026-05-05T14:06:07Z  
Sera Bird (sabird): Approved for C&A Assistant
4. 2026-05-05T16:04:09Z  
Carol Evans (cacevans): Approved for Curricular Systems Coordinator
5. 2026-05-22T16:39:56Z  
Sera Bird (sabird): Approved for C&A Coordinator
6. 2026-05-29T20:04:20Z  
Ben Linford (bjlinford): Approved for C&A Director
7. 2026-05-29T20:37:57Z  
Amber Booker (aabooker): Approved for Before Comm review
8. 2026-06-04T21:36:59Z  
Amber Booker (aabooker): Approved for Comm Review step
9. 2026-06-10T18:17:38Z  
Sera Bird (sabird): Approved for After Comm review
10. 2026-07-07T17:15:05Z  
Randy Van Wagnen (rvanwagnen): Approved for Curriculum Committee Chair
11. 2026-07-08T21:13:06Z  
Jessica Hale (jhale15): Approved for Assessment Committee Chair
12. 2026-07-09T13:22:00Z  
Sera Bird (sabird): Approved for Before VPI
13. 2026-07-09T13:24:30Z  
Brandon Tucker (brtucker): Approved for Vice President for Instruction
14. 2026-07-09T17:35:37Z  
Carol Evans (cacevans): Approved for Banner

## History

1. Jul 9, 2026 by Anthony Esposito (tonyesposito)

## New Course Proposal

### Viewing: UAT 304 : Critical Thinking for the Service Technician (UA 6068)

Changes proposed by: Anthony Esposito (tonyesposito)

#### Effective Term

Summer 2026

**Rationale and proposal summary**

New United Association course

**Course Cover**

**Full Course Title**

Critical Thinking for the Service Technician (UA 6068)

**Transcript Title**

Critical Thinking Svc Tec 6068

**Subject Code**

UAT - United Association Training

**Course Number**

304

**Department**

United Assoc Dept (UAT Only) (UATD)

**Banner Division**

ATP

**Division/College**

Adv Tech/Public Serv Careers (AT)

**Org Code**

28200

**Course Description**

In this course, students will be introduced to the importance and application of critical thinking and problem-solving skills in troubleshooting and servicing heating, ventilation, air-conditioning, and refrigeration (HVACR) systems. Topics include system components, real-world issues, cognitive biases, the application of math and science principles, and the use of the scientific method in diagnosing problems. Through theoretical instruction, hands-on exercises, and role play scenarios, students will develop analytical reasoning skills to improve diagnostic accuracy and service efficiency. Limited to United Association Instructor Training Program graduates.

**Planned Delivery Format**

Face to Face

**Has this course been approved for virtual or blended virtual?**

No

**Has this course been approved for online or online blended?**

No

**Grading method**

Standard Letter, Audit, Academic Forgiveness

**CIP Code**

469999 - Construction Trades, Other.

**Occupational Indicator**

Yes

**ACS Code**

130

**Degree Attributes**

BCL - Below College Level Pre-Reqs

## **Credit hours, contact hours, repeatability**

### **Repeatable for additional credit**

No

### **Course credits**

1.5

### **Lecture contact hours**

22.5

### **Lab contact hours**

1.5

### **Total Contact Hours**

24

### **Expected Total Contact Hours**

24

## **Prerequisites and prerequisite skill levels**

### **College-Level Math**

No Level Required

### **College-Level Reading and Writing**

College-level Reading and Writing

### **Approved Level I Prerequisite:**

Academic Reading and Writing Levels of 6

### **Is concurrent enrollment an option for this prerequisite?**

No

## **Course Assessment Plan**

### **Learning Outcome**

#### **Outcome**

Identify the function of the basic components of the HVACR system.

### **Assessment #1**

#### **Assessment Tool**

Outcome-related exam questions

#### **Anticipated Next Assessment Year**

2029

#### **Anticipated Next Assessment Term**

Summer

#### **Assessment Cycle**

Every Three Years

#### **Anticipated assessment population**

All students from all sections

#### **How the assessment will be scored**

Answer key

#### **Who does the scoring?**

U.A. Instructors

**Standard of success**

80% of the students will score 80% or higher.

**Assessment #2**

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**Learning Outcome**

**Outcome**

Apply the scientific method to mitigate bias in HVACR service scenarios.

**Assessment #1**

**Assessment Tool**

Outcome-related role-play scenarios

**Anticipated Next Assessment Year**

2029

**Anticipated Next Assessment Term**

Summer

**Assessment Cycle**

Every Three Years

**Anticipated assessment population**

All students from all sections

**How the assessment will be scored**

Checklist

**Who does the scoring?**

U.A. Instructors

**Standard of success**

80% of the students will score 80% or higher.

**Assessment #2**

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**Learning Outcome**

**Outcome**

Demonstrate critical thinking and problem-solving skills when troubleshooting HVACR system scenarios.

**Assessment #1**

**Assessment Tool**

Outcome-related scenarios

**Anticipated Next Assessment Year**

2029

**Anticipated Next Assessment Term**

Summer

**Assessment Cycle**

Every Three Years

**Anticipated assessment population**

All students from all sections

**How the assessment will be scored**

Checklist

**Who does the scoring?**

U.A. Instructors

**Standard of success**

80% of the students will score 80% or higher.

**Assessment #2****Course Objectives**

	Objective(s)
1.	Identify the basic system components and functions of an HVACR system.
2.	Discuss the symptoms and indicators of typical problems encountered in HVACR systems.
3.	Discuss common biases that affect HVACR system troubleshooting.
4.	Discuss and demonstrate techniques to identify and reduce bias in decision-making.
5.	Discuss and demonstrate evidence-based reasoning (including testing) and open-mindedness.
6.	Describe and apply the testing procedures used in the scientific method for HVACR system troubleshooting: Question, Research, Hypothesis, Experiment, Observation, Conclusion, and Repeat.
7.	Define and discuss the key elements of critical thinking.
8.	Identify critical thinking skills that can be applied to troubleshooting an HVACR system issue in a role-play.
9.	Calculate pressures, temperatures, and flow rates along with formulas and units of measurement used in HVACR systems.
10.	Describe the scientific principles of introductory thermodynamics and heat transfer principles, along with the role of physics and chemistry in troubleshooting HVACR system issues.
11.	Identify personal protective equipment (PPE) needed when working on HVACR systems.

**Resources****Will there be an additional fee on this course?**

No

**Are you planning to use First-Day resources?**

No

**Will this course always be OER/No Cost Resources?**

Yes

**Describe any resource needs**

N/A

**General Education Area(s)****Area 1: Writing**

No

**Area 2: 2nd Writing or Communication/Speech**

No

**Area 3: Mathematics**

No

**Area 4: Natural Science**

No

**Area 5: Social and Behavioral Science**

No

**Area 6: Arts and Humanities**

No

**MTA General Education**

No

**Review**

**Is conditional approval requested?**

No

**Is this course currently conditionally approved, and you are now submitting it for full approval?**

No

**Reviewer Comments**

**Sera Bird (sabird) (2026-05-05T14:06:03Z):** Pulling forward to CSC queue.

**Sera Bird (sabird) (2026-05-19T18:17:30Z):** Sent suggestions to preparer 5/19/26

**Sera Bird (sabird) (2026-05-22T16:39:52Z):** Preparer agreed to updates to description, outcomes, assessment plan and objective #8 via email 5/21/26.

**Sera Bird (sabird) (2026-06-10T18:17:35Z):** Updated objectives to include "testing" as requested by C&A Committees and confirmed by preparer via email 6/10/26.

Key: 9324