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Northeast Wisconsin Technical College

Land Acknowledgement Statement

The region served by NWTC **occupies the ancestral home** of the Menominee Nation, who have **persisted here** in Northeast Wisconsin from **before recorded history** to the present day. The College's Green Bay campus exists **upon lands ceded from the Menominee Tribe to the Oneida Nation**. We acknowledge this land we stand upon today as sacred, historical, and significant to the Menominee and Oneida Nations as are the **lands of all First Nations People**.

See more detail at <https://tinyurl.com/244wh3xf>

Gas Field 4 SYLLABUS

Catalog #31-469-341 & Class #21441

Starts: January 16th Ends: March 7th



INSTRUCTOR INFORMATION & RESPONSIBILITIES

Instructor Jason Nelson
Office EE101D
Telephone (920)498-6392 Cell: (920) 606-7176
Email Jason.nelson@nwtc.edu
Availability MTWR 1:00-3:00

As a NWTC instructor, I am expected to:

- *Maintain a professional, safe learning environment while adhering to the policies of the college.*
- *Provide open and frequent communication with learners regarding their progress in this class.*
- *Reply to communications within 48 business hours.*
- *Grade assignments and post scores in Blackboard regularly.*
- *Provide feedback to guide learners toward improvement of their coursework.*
- *Post information about assignments in Blackboard Learning Plans and Grade Center.*
- *(In the event of a college level cancellation) Communicate with learners a detailed plan regarding expectations for responding to the cancellation within 24-hours.*

CLASS SCHEDULE INFORMATION

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
7:00-11:30	7:00-11:30	7:00-11:30	7:00-11:30			

Class Delivery Mode & How to Participate: *This class meets in an 8-Week format with both in-person and online components.*

Course Description: This course provides the opportunity for the learner to develop the knowledge skills process and understanding of the installation, maintenance and repair of residential gas appliances, venting codes, line stopping equipment, corrosion control, regulators, metering, gas appliance relighting procedures and customer service training.

Credits: *5 credits*

Pre-requisites/Corequisites:

Gas Field I 31-469-310, Gas Field II 31469320, Gas Field III 31469330

Textbooks:

Operator Qualification Training Program (set of 5 orange books)

National Fuel Gas Code – NFPA # 54 (2018 Edition)

Energy U Online Computer courses provided by Midwest Energy Association (MEA)

Supplies/Technology:

- | | |
|-----------------------------|---|
| 1) Safety Glasses | 7. Hard Hat – with liner |
| 2) Work Shoes-Safety toes | 8. Insulated Coveralls |
| 3) Rubber Boots | 9. Insulated Boots |
| 4) Rain Suit | 10. Traffic Vest – with reflective strips |
| 5) Pocket Knife | 11. Steel Tape Measure – at least 12' |
| 6) Watch – With second hand | 12. Work Gloves |

Course Competencies: Upon successful completion of this course, you will be able to:

- 1. Explain Gas Water Heaters***
- 2. Explain Gas Ranges***
- 3. Explain Conventional Gas Furnaces***
- 4. Explore Ventilation Air for Combustion***
- 5. Compare Venting of Appliances***
- 6. Compare Standard Furnaces to High Efficiency Gas Furnaces***
- 7. Explore Gas Dryers***
- 8. Explore Gas Boilers***
- 9. Summarize Other Gas Appliances***
- 10. Outline Tapping & Stopping Steel Gas Mains***
- 11. Perform Plastic Pipe Fusions***
- 12. Explain Gas Combustion and Gas Burners***
- 13. Explain the Properties of Complete and Incomplete Combustion***

Employability Skills: In addition to specific job-related training, NWTC has identified the following transferrable employability skills reaching beyond the context of a specific course:

1. Communicate Effectively
2. Work Cooperatively and Professionally
3. Think Critically and Creatively
4. Solve Problems Effectively
5. Value Individual Differences and Abilities
6. Demonstrate Personal Accountability
7. Demonstrate Community and Global Accountability

Student Services to Support You:

Being in college is an exciting time to develop skills, further your career path, and build community. We don't want financial challenges to get in your way! Our team is ready to support basic needs such as groceries, housing assistance, transportation assistance, and more. Our goal is to keep you on track with your studies and educational goals. If you are experiencing a financial emergency or an unexpected event in your life, let us help. Support services are available at all NWTC locations. Our main office is located on the Green Bay campus in SC133. We can be reached by phone (920) 498-6258, email supportservices@nwtc.edu or in-person. For more information, please visit us at www.nwtc.edu/student-experience/student-support-services.

Additionally, NWTC provides many services and support networks to assist our students. Descriptions of these services can be found in the NWTC Student Handbook or at www.nwtc.edu/students. We encourage you to learn about the resources available to you, ranging from student involvement and personal counseling to academic, financial aid, or career advising. When you are looking for services, please contact your instructor or academic advisor via Starfish, or by calling (920) 498-5444.

Academic Coaching (Tutoring) at NWTC: Academic Coaching provides an additional layer of support to ensure students achieve their academic goals. Academic Coaching is committed to serving all students as an academic resource to promote student growth and success. Students who use Academic Coaching receive content help, but also gain study skills, organization skills, time management, and confidence. We understand that school can be challenging; let us help you reach your academic goals at www.nwtc.edu/academiccoaching

NWTC ALL-COLLEGE POLICIES

These policies are in effect for all classes at NWTC.

This syllabus is a learning contract between you and your instructor. In addition to your syllabus, there are policies and procedures listed in the NWTC Student Handbook that all students must uphold. Please refer to the NWTC Student Handbook to raise your awareness and understanding of the College's expectations.

[NWTC Student Handbook](#)

- [Academic Integrity \(includes Plagiarism, cheating and collusion\)](#)
- [Drop from a Class or Program](#)
- [Student Academic Grievance](#)
- **Discrimination and Harassment Prevention:** NWTC is committed to embracing the worth of every individual and promoting a respectful environment. Discrimination and harassment of protected categories in its employment and educational programs is prohibited. For questions or concerns, contact Mohammed Bey, Chief Diversity Officer, by email at mohammed.bey@nwtc.edu or by phone at (920) 498-6826.
- **Disability Act Statement:** NWTC is committed to creating a learning environment that meets the needs of its diverse student body. NWTC complies with all provisions of the Americans with Disabilities Act and makes reasonable accommodations upon request. If you have a disability, please call Disability Services at (920) 498-6904 to begin a conversation regarding the support services available to you or to request an official accommodation.
 - [Accessibility & Data Privacy](#)

Student Academic Calendar: Visit [Academic Calendar page](#) for important College dates you should add to your personal calendar.

Get technical assistance by calling the Student Help Desk at (920) 498-6900 or 1-866-235-5037.

Learn more about the technology skills needed to be successful at NWTC (such as sending email, using software for assignments, submitting online work, and using test monitors) by watching the [Technology 101 video series](#) or visiting the [Ask a Librarian FAQ site](#).

Assignments and Assessments	Point Per Activity	# of Activities	Total Points Possible
Lab/Fieldwork 20%	100	11	1100
EnergyU Coursework 20%	100	13	1300
Written tests/quizzes 20%	Varies	19	290
Instructor evaluations 20%	30	1	30
Final Exam 20%	93	1	93
Total Points Possible			2813

Scale	Grade
100-90	A
80-89	B
70-79	C*
60-69	D
59-0	F

* C is the minimum passing grade for this class.

Syllabus Changes: Instructors retain the right to make changes based on the timeline of the class, feedback from learners and/or logistical issues. Students will be informed as soon as a change is made. A current copy

CLASS SPECIFIC POLICIES

In addition to the college policies referenced, the following instructor policies also apply to this course.

Attendance and Participation:

The student will be required to call or email the instructor prior to the class start time if they will be absent. This notification will result in an excused absence. If no prior notification is given it will be recorded as unexcused. All absences will be recorded and made available to potential employers upon request.

Cell Phone Usage: Cell phone usage is prohibited during all class sessions, shop and field activities. This includes both cell phone calls and text messaging. Your cell phone should not be in class at any time, so an incoming call will not disrupt the class. The only exception is if you have an emergency then advise your instructor of your need to use cell phone. Refer to written cell phone policy that you signed during the first semester of this program.

Campus Closure Day(s) Procedure: In the event of a campus closure,

Make up days will be communicated to students at time of cancellation through text message from instructor. Students will work on on-line Operator Qualifications assignments.

Course Calendar:

GAS FIELD 4 – Weekly Calendar

WEEK 1

- LAB – Finish piping projects 1 & 2
- LAB - CSST
- Pipe sizing worksheets handout/homework
- Students work in groups to make their own piping worksheet
- DEMO: GAS BURNERS- Bunsen burner
- Gas Combustion- Power Point
- Gas Burners- Power Point
- PP-Pipe sizing Power Point
- Intro to NFPA codebook
- Open class NFPA TEST
- MOD. 312 – Gas-air adjustment
- MOD. 301 – Combustion and ventilation air
- Energy-U 192-0901: System Patrolling
- Energy-U 192-2010: Service Line Replacement

WEEK 2

- Gas Range Worksheet
- Gas range handout
- MOD. 311 – Pilot lights
- Sequence of Gas Appliances Operation handout
- TEST-Gas Range
- Gas Range mockups lab
- GAS RANGES: Lab

- **PP-VENTING & VENTILATION Power Point**
- **Venting Worksheet**
- **MOD. 313 – Venting**
- **NFPA partner quiz with code book**
- **Energy-U 192-0802: Inspection**
- **Energy-U 192-1435: Inspection for Damage**

WEEK 3

- **Water Heater handout**
- **Hand out Water Heater worksheet**
- **Thermocouple handout and DEMO open circuit closed circuit and drop out tests**
- **Water heater mockups**
- **LAB- Thermocouple Testing**
- **LABS : Water Heaters- Into and #1 that #2's**
- **Combustion Air and Venting Handout**
- **192-0802: Protection during disturbance of segment support.**
- **TEST-Water heaters**

WEEK 4

- **Furnace Familiarization Lab/handout**
- **Furnace pilot style mockups**
- **LAB : Furnaces – Older style**
- **MOD. 241 CO safety**
- **192-1435 : Bypass gas mains and services**
- **Clocking gas meters handout**
- **Thermostat anticipator adjustment handout**
- **Purging gas handout**

- 192-1409 Installation of steel pipe.

WEEK 4 CONTINUED

- PP Gas Controls
- Furnace electronic ignition mockups
- LAB : Furnaces – Newer style
- Test Orifice Sizing
- 192-1434: Bypass regulator stations and meter sets.
- Winter furnace check handout
- Conducting a CO investigation handout
- TEST-Gas controls 51 questions
- 192-1414: Pipeline shutdown, startup, or pressure change.

WEEK 5

- LINE STOPPER TRAINING – All week
- Test: Tapping & Stopping
- 192-1803 : Pressure regulating, limiting, and relief device- Operation and maintenance.
- LAB: Working with steel pipe.
- 192-0402 : Coating Maintenance

WEEK 6

- Final review!
- PP Inside leak investigations & handout
- Boilers: Demo by Leon
- MOD. 324 – Lighting appliances
- MOD. 244 – Emergency response & restoration of service
- Gas Dryer Handouts
- LAB: Gas Dryers
- LAB: Training Town
- PE Fusion: Written test & hands on qualification.
- 192-1203 : Inside gas leak investigation
- 192-1426: Tapping steel and plastic pipe.
- Caution tag procedures show tags in cabinet in classroom
- Safety procedures for relighting- handout: use with Mod.324
- Public relations handout
- Pop Quiz on metering and LP vs Natural
- Dog Bites

WEEK 7

- Respiratory equipment and FR clothing.
- Fusion written tests and destructive testing of samples
- Review for Finals
- Job Fair

WEEK 8

- **FINAL EXAM**

What was done in order to get to the 15-week semester? We used more Energy U online learning, and combined with a 4-day weekly schedule, with longer days, we were able to accomplish this goal. The longer days gave us more class time for learning with less downtime on start –up and clean-up. This alone saved about 4 hours a week.