

## Natural Gas Program Changes – Executive Overview

Changes to the program are being proposed to provide quality instruction for students in order to meet industry standards and requirements.

### Rational

16 Hour Certificate: Stop offering this certificate level starting fall 2013. Enrollment in this level has been zero for the past few semesters. To be better prepared for the job market, students enroll in at least the 33 hour certificate to gain sufficient knowledge for an entry level position in industry.

33 Hour Certificate: Current certificate hours will remain the same, but three courses need to have a name change (course description, outcomes and competencies will remain the same):

Current Course Name:	Proposed Course Name:
PETR 1500 Intro to Natural Gas Distribution and Transmission Technologies/Techniques	NATG 1115 Introduction to Gas Technology
PETR 1501 Intermediate Natural Gas Distribution and Transmission Technologies/Techniques	NATG 1120 Intermediate Gas Technology
PETR 1508 Gas Regulators Operations and Maintenance	NATG 1145 Gas Regulators

Change to AAS Natural Gas Distribution & Transmission Degree: The above courses will also change the “required” courses for this degree. In addition, a new course “NATG 1170 Natural Gas Flow Measurement and Control” (4 hours) will be added to the required list of courses. This will change the major requirements hours from 30 to 34.

This change will then make the electives go from 17 to 13 credit hours.).

We wish to change the Course Subject to NATG on the following *required* courses:

- ELEC1330 DC Circuit Fundamentals (NATG 1100)
- ELEC1332 AC Circuit Fundamentals (NATG 1105)
- PETR1505 Fundamentals of Natural Gas (NATG 1110)
- PETR1460 Basic Corrosion Field Technician (NATG 1135)
- ELTR1100 Electrical Devices & Controls I (NATG 1125)
- ELTR1105 Intro to Programmable Logic Controllers (NATG 1150)
- PETR1510 Trenching and Excavation Practices (NATG 1160)

Also to the following *elective* courses:

- ELTR1107 Advanced Programmable Logic Controllers (NATG 1155)
- PETR1515 Natural Gas Technician Internship (NATG 1165)
- ELTR1102 Electrical Devices and Controls II (NATG 1130)
- CHEM 1818 Basic Corrosion (NACE Seminar) (NATG 1140)

We wish to change the offering for Oral Communications to read:

COMM 1200 Interpersonal Communications OR COMM 1230 Public Speaking

We wish to change the offering for Mathematics to read:

MATH 1806 Technical Mathematics OR MATH 1828 College Algebra

We also wish to take the following classes off the list of electives:

- PETR 1461-Intermediate Corrosion Field Tech Level II
- All of the MEAS courses will be deleted from the elective area (MEAS1100-Common Technical Skills, MEAS1101-Gas Industry Concepts, MEAS1102-Instrumentation and Controls, MEAS1103-Gas Quality Analysis, MEAS1104-Flow Measurement and MEAS1105-Pressure and Volume Control
- Listing of “Any HazMat Course”

We wish to add the following classes to the list of electives:

- PHED 1229 Scuba Diving (3 hours)
- BSTC 1786 Customer Service (3 hours)
- PSYC 1000 General Psychology
- ECON 1610 Principles of Macroeconomics
- ECON 1615 Personal Finance
- HLTH 1248 Personal & Community Health
- LIFE 1413 Environmental Science
- PHSC 1400 Physical Science
- ACCT 1602 General Accounting
- BUSI 1600 Introduction to Business
- OFTC 1600 Beginning Keyboarding
- HZMT 1914 OSHA General Industry Reg
- HZMT 1917 Dept of Transportation Regs

This program will not be offered online at this time.  
Implementation Date: Fall 2013

Revised Curriculum Guides are attached.

# Natural Gas Distribution & Transmission



## Certificate (Total Credit Hours 33)

REQUIREMENTS			
<input type="checkbox"/> MATH	1806	Technical Math	3
<input type="checkbox"/> ELEC	1330	DC Circuit Fundamentals	3
<input type="checkbox"/> NATG	1100		
<input type="checkbox"/> ELEC	1332	AC Circuit Fundamentals	4
<input type="checkbox"/> NATG	1105		
<input type="checkbox"/> PETR	1505	Fundamentals of Natural Gas	3
<input type="checkbox"/> NATG	1110		
<input type="checkbox"/> PETR	1460	Basic Corrosion Field Technician	3
<input type="checkbox"/> NATG	1135		
<input type="checkbox"/> PETR	1500	Intro to Natural Gas Distribution and Transmission Technologies/Techniques <i>Introduction to Gas Technology</i>	2
<input type="checkbox"/> NATG	1115		
<input type="checkbox"/> PETR	1501	Intermediate Natural Gas Distribution and Transmission Technologies /Techniques <i>Intermediate Gas Technology</i>	2
<input type="checkbox"/> NATG	1120		
<input type="checkbox"/> ELTR	1100	Electrical Devices & Controls I	3
<input type="checkbox"/> NATG	1125		
<input type="checkbox"/> ELTR	1105	Introduction to Programmable Logic Controllers	3
<input type="checkbox"/> NATG	1150		
<input type="checkbox"/> PETR	1508	Gas Regulators Operations and Maintenance <i>Gas Regulators</i>	2
<input type="checkbox"/> NATG	1145		
<input type="checkbox"/> ENGL	1200	Business English	3
<input type="checkbox"/> PETR	1510	Trenching and Excavation Practices	2
<input type="checkbox"/> NATG	1160		
<b>TOTAL</b>			<b>33</b>

**NOTE: Courses must be taken in this order.**

**NOTE: Most classes taught in block format M-F 8:00am-5:00pm**

Review Date: 04/11

Revision Date: 08/10

Items in red are the requested changes.

Student Name: \_\_\_\_\_ ID#: \_\_\_\_\_

Placement Scores: \_\_\_ English \_\_\_ Math \_\_\_ Reading

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# Natural Gas Distribution & Transmission



Associate in Applied Science (Total Credit Hours – 64)

## GENERAL EDUCATION REQUIREMENTS

### WRITTEN / ORAL COMMUNICATIONS

<input type="checkbox"/> ENGL	1200	Business English	3
<input type="checkbox"/> COMM	1200	Interpersonal Communications <b>OR</b>	3
<input type="checkbox"/> <b>COMM</b>	<b>1230</b>	<b>Public Speaking</b>	
<input type="checkbox"/>			
<b>TOTAL</b>			<b>6</b>

### HUMANITIES

<b>Fine Arts</b>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<b>Language Arts</b>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<b>Philosophy / History / Religion</b>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<b>TOTAL</b>			

### SOCIAL and BEHAVIORAL SCIENCES

<b>Social Science</b>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<b>Behavioral Science</b>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<b>Economics / Political Science</b>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<b>TOTAL</b>			

### NATURAL SCIENCE and MATHEMATICS

<input type="checkbox"/> MATH	1806	Technical Mathematics <b>OR</b>	3
<input type="checkbox"/> <b>MATH</b>	<b>1828</b>	<b>College Algebra</b>	
<input type="checkbox"/> CHEM	1802	Fundamentals of General Chemistry	5
<input type="checkbox"/>			
<input type="checkbox"/>			
<b>TOTAL</b>			<b>8</b>

### PHYSICAL EDUCATION (maximum of two credit hours) OR HEALTH (maximum of three credit hours)

<input type="checkbox"/> PHED	1246	First Aid Emergency Care (1 hour counts toward 15 hour gen ed requirement – 2 hours toward graduation hours)	3
<b>TOTAL</b>			<b>3</b>

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## REQUIREMENTS for SPECIFIC MAJOR:

MAJOR REQUIREMENTS			
<input type="checkbox"/> ELEC	1330	DC Circuit Fundamentals	3
<input type="checkbox"/> <b>NATG</b>	<b>1100</b>		
<input type="checkbox"/> ELEC	1332	AC Circuit Fundamentals	4
<input type="checkbox"/> <b>NATG</b>	<b>1105</b>		
<input type="checkbox"/> PETR	1505	Fundamentals of Natural Gas	3
<input type="checkbox"/> <b>NATG</b>	<b>1110</b>		
<input type="checkbox"/> PETR	1460	Basic Corrosion Field Technician	3
<input type="checkbox"/> <b>NATG</b>	<b>1135</b>		
<input type="checkbox"/> PETR	1500	Intro to Natural Gas Distribution and Transmission Technologies/Techniques	2
<input type="checkbox"/> <b>NATG</b>	<b>1115</b>	Introduction to Gas Technology	
<input type="checkbox"/> PETR	1501	Intermediate Natural Gas Distribution and Transmission Technologies	2
<input type="checkbox"/> <b>NATG</b>	<b>1120</b>	/Techniques Intermediate Gas Technology	
<input type="checkbox"/> ELTR	1100	Electrical Devices & Controls I	3
<input type="checkbox"/> <b>NATG</b>	<b>1125</b>		
<input type="checkbox"/> ELTR	1405	Introduction to Programmable Logic Controllers	3
<input type="checkbox"/> <b>NATG</b>	<b>1150</b>		
<input type="checkbox"/> PETR	1508	Gas Regulators Operation and Maintenance	2
<input type="checkbox"/> <b>NATG</b>	<b>1145</b>	Gas Regulators	
<input type="checkbox"/> PETR	1510	Trench and Excavation Practices	2
<input type="checkbox"/> <b>NATG</b>	<b>1160</b>		
<input type="checkbox"/> BSTC	1036	Computer Concepts & Applications	3
<input type="checkbox"/> <b>NATG</b>	<b>1170</b>	<b>Natural Gas Flow Measurement and Control ( new course)</b>	<b>4</b>
<b>TOTAL</b>			<b>30</b>
			<b>34</b>

Electives are listed on the back!

Student Name: \_\_\_\_\_ ID#: \_\_\_\_\_

Placement Scores: \_\_\_ English \_\_\_ Math \_\_\_ Reading

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<b>MAJOR ELECTIVES</b>			
<input type="checkbox"/> MEAS	1100	Common Technical Skills	3
<input type="checkbox"/> MEAS	1101	Gas Industry Concepts	5
<input type="checkbox"/> MEAS	1102	Instrumentation and Controls	9
<input type="checkbox"/> MEAS	1103	Gas Quality Analysis	4
<input type="checkbox"/> MEAS	1104	Flow Measurement	6
<input type="checkbox"/> MEAS	1105	Pressure and Volume Control	3
<input type="checkbox"/> ELTR	4407	Advanced Programmable Logic Controllers	4
<input type="checkbox"/> NATG	1155		
<input type="checkbox"/> PETR	4515	Natural Gas Technician Internship	1-4
<input type="checkbox"/> NATG	1165		
<input type="checkbox"/> ELTR	4402	Electrical Devices and Controls II	3
<input type="checkbox"/> NATG	1130		
<input type="checkbox"/> PETR	4461	Intermediate Corrosion Field Tech Level II	4
<input type="checkbox"/> CHEM	4818	Basic Corrosion (NACE Seminar)	1
<input type="checkbox"/> NATG	1140		
<input type="checkbox"/> WELD	1330	Welding I	3
<input type="checkbox"/> WELD	1331	Welding II	3
<input type="checkbox"/> HZMT		Any HazMat Course	
<input type="checkbox"/> ENGL	1236	Technical Communications	3
<input type="checkbox"/> LANG	1933	Spanish for the Workplace	1-3
Add the following courses to electives:			
<input type="checkbox"/> PSYC	1100	General Psychology	3
<input type="checkbox"/> PHED	1229	Scuba Diving	3
<input type="checkbox"/> BSTC	1786	Customer Service	3
<input type="checkbox"/> ECON	1610	Principles of Macroeconomics	3
<input type="checkbox"/> ECON	1615	Personal Finance	3
<input type="checkbox"/> HLTH	1248	Personal & Community Health	3
<input type="checkbox"/> LIFE	1413	Environmental Science	3
<input type="checkbox"/> PHSC	1400	Physical Science	5
<input type="checkbox"/> ACCT	1602	General Accounting	3
<input type="checkbox"/> BUSI	1600	Introduction to Business	3
<input type="checkbox"/> OFTC	1600	Beginning Keyboarding	2
<input type="checkbox"/> HZMT	1914	OSHA General Industry Regulations	2-3
<input type="checkbox"/> HZMT	1917	Dept of Transportation Regulations	3
<input type="checkbox"/>			
<b>TOTAL</b>			<b>17</b>
			<b>13</b>

**NOTE: Most classes taught in block format M-F 8:00am-5:00pm**

Review Date: 04/11

Revision Date: 11/12

Student Name: \_\_\_\_\_ ID#: \_\_\_\_\_

Placement Scores: \_\_\_ English \_\_\_ Math \_\_\_ Reading

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# Natural Gas Distribution & Transmission



Associate in Applied Science (Total Credit Hours – 64)

## MUST BE TAKEN IN THIS ORDER

1 <sup>st</sup> Semester			
<input type="checkbox"/> MATH	1806	Technical Math <b>or</b>	3
<input type="checkbox"/> MATH	1828	<b>College Algebra</b>	
<input type="checkbox"/> ELEC	1330	DC Circuit Fundamentals	3
<input type="checkbox"/> NATG	1100		
<input type="checkbox"/> ELEC	1332	AC Circuit Fundamentals	4
<input type="checkbox"/> NATG	1105		
<input type="checkbox"/> PETR	1505	Fundamentals of Natural Gas	3
<input type="checkbox"/> NATG	1110		
<input type="checkbox"/> PETR	1460	Basic Corrosion Field Technician	3
<input type="checkbox"/> NATG	1135		
<input type="checkbox"/> PETR	1500	Intro to Natural Gas Distribution and Transmission Technologies/Techniques	2
<input type="checkbox"/> NATG	1115	<b>Introduction to Gas Technology</b>	
<input type="checkbox"/> PETR	1501	Intermediate Natural Gas Distribution and Transmission Technologies/Techniques	2
<input type="checkbox"/> NATG	1120	<b>Intermediate Gas Technology</b>	
<input type="checkbox"/> ELTR	1400	Electrical Devices & Controls I	3
<input type="checkbox"/> NATG	1125		
<input type="checkbox"/> ELTR	1405	Introduction to Programmable Logic Controllers	3
<input type="checkbox"/> NATG	1150		
<input type="checkbox"/> PETR	1508	Gas Regulators Operation and Maintenance	2
<input type="checkbox"/> NATG	1145	<b>Gas Regulators</b>	
<input type="checkbox"/> ENGL	1200	Business English	3
<input type="checkbox"/> PETR	1510	Trenching and Excavation Practices	2
<input type="checkbox"/> NATG	1160		
<input type="checkbox"/>			
<b>TOTAL</b>			<b>33</b>

<input type="checkbox"/> PETR	1461	Intermediate Corrosion Field Tech Level II	4
<input type="checkbox"/> HZMT	1935	Intro to Water/Wastewater Oper	3
<input type="checkbox"/> HZMT	1914	<b>OSHA General Industry Regulations</b>	<b>2-3</b>
<input type="checkbox"/> HZMT	1945	Intro to Brownfields	3
<input type="checkbox"/> HZMT	1960	Renewable Energy Sources	3
<input type="checkbox"/> CHEM	1818	Basic Corrosion (NACE Seminar)	1
<input type="checkbox"/> NATG	1140		
<input type="checkbox"/> HZMT	1917	Dept of Transportation Regs	3
<input type="checkbox"/> WELD	1330	Welding I	3
<input type="checkbox"/> WELD	1331	Welding II	3
<input type="checkbox"/> HZMT		Any HazMat Course	
<input type="checkbox"/> ENGL	1236	Technical Communications	3
<input type="checkbox"/> LANG	1933	Spanish for the Workplace	1-3
<input type="checkbox"/> PSYC	1000	General Psychology	3
<input type="checkbox"/> PHED	1229	Scuba Diving	3
<input type="checkbox"/> BSTC	1786	Customer Service	3
<input type="checkbox"/> ECON	1610	Principles of Macroeconomics	3
<input type="checkbox"/> ECON	1615	Personal Finance	3
<input type="checkbox"/> HLTH	1248	Personal & Community Health	3
<input type="checkbox"/> LIFE	1413	Environmental Science	3
<input type="checkbox"/> PHSC	1400	Physical Science	5
<input type="checkbox"/> ACCT	1602	General Accounting	3
<input type="checkbox"/> BUSI	1600	Introduction to Business	3
<input type="checkbox"/> OFTC	1600	Beginning Keyboarding	2
<b>TOTAL</b>			<b>17</b> <b>13</b>

Review Date: 11/12

Revision Date: 11/12

All changes are in red.

New course in green.

2 <sup>nd</sup> Semester			
<input type="checkbox"/> CHEM	1802	Fundamentals of General Chemistry	5
<input type="checkbox"/> COMM	1200	Interpersonal Communications <b>or Public</b>	3
<input type="checkbox"/> COMM	1230	<b>Speaking</b>	
<input type="checkbox"/> BSTC	1036	Computer Concepts & Applications	3
<input type="checkbox"/> PHED	1246	First Aid Emergency Care	3
<input type="checkbox"/> NATG	1170	<b>Natural Gas Flow Measurement and Control</b>	<b>4</b>
<b>TOTAL</b>			<b>14</b> <b>18</b>

MAJOR ELECTIVES			
<input type="checkbox"/> ELTR	1407	Advanced Programmable Logic Controllers	4
<input type="checkbox"/> NATG	1155		
<input type="checkbox"/> PETR	1515	Natural Gas Technician Internship	1-4
<input type="checkbox"/> NATG	1165		
<input type="checkbox"/> ELTR	1102	Electrical Devices and Controls II	3
<input type="checkbox"/> NATG	1130		

Student Name: \_\_\_\_\_ ID#: \_\_\_\_\_

Placement Scores: \_\_\_ English \_\_\_ Math \_\_\_ Reading

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