

APTI #415: CONTROL OF GASEOUS EMISSIONS

November 14 – 17, 2017
Pearl, Mississippi

AGENDA

Course Location
Marriot Courtyard
415 Riverwind Drive
Pearl, MS 39208

Course Director
Tim C. Keener, PhD, PE, QEP
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Environmental Engineering
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| Date/Time | Chapter | Subject |
|----------------------|----------------|---|
| November 14th | | |
| 8:30-9:00 AM | | Welcome/Orientation/class objectives & Syllabus |
| 9:00-9:45 | | Pre-test |
| 9:45-10:00 | | Break |
| 10:00-11:00 | Chap. 1: | Introduction to Gaseous Contaminants |
| 11:00-12:00 | Chap. 2: | Control Techniques for gaseous Contaminants - Gas Stream Characteristics - Gaseous Contaminant Control Techniques |
| 12:00-1:00 PM | | Lunch |
| 1:00-1:30 | Chap. 3: | Air Pollution Control Systems Flowcharts |
| 1.30-2.15 | Chap. 3: | Air Pollution Control Systems Pressure, Temperature, & Flow rate |
| 2:15-2:30 | | Break |
| 2:30-3:45 | Chap. 3: | Air Pollution Control Systems - Hoods |
| 3:45-5.00 | Chap. 3: | Air Pollution Control Systems - Fans |
| 5.00 | ADJOURN | |
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| November 15th | | |
| 8:30-9:30 AM | Chap. 4: | Types and Components of Adsorption Systems |
| 9:30-10:15 | Chap. 4: | Adsorption Operating Principles |
| 10:15-10:30 | | Break |
| 10:30-12:00 | Chap 4: | Adsorption Operating Principles (cont.) |
| 12:00-1:00 PM | | Lunch |
| 1:00-3:00 | Chap. 4: | Adsorption Capability & Sizing Applicability Adsorption Capacity Class Exercises |

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| 3:00-3:15 | Break | |
| 3:15-5:00 | Chap. 4: | Adsorption Capability & Sizing Adsorption Regeneration methods Instrumentation Video tape "Carbon Adsorption" Class Exercises |
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5.00 **ADJOURN**

November 16th

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| 8:30-9:00 AM | Chap. 5: | Types and Components of Absorbers |
| 9:00-10:00 | Chap. 5: | Absorption Operating Principles |
| 10:00-10:15 | Break | |
| 10:15-12:00 | Chap. 5: | Absorption Capability & Sizing |
| 12:00-1:00 PM | Lunch | |
| 1:00-2:00 | Chap. 5: | Absorption Capability & Sizing (cont.) Video tape "Absorption" Class Exercises |
| 2:00-3:15 | Chap. 6: | Oxidation Types and Components Operating Principles Capability & Sizing Class Exercises |
| 3:15-3:30 | Break | |
| 3:30-5:00 | Chap. 7: | Condensation Types of Systems Operating Principles Capability & Sizing Video tape "Condensation" |

5.00 **ADJOURN**

November 17th

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| 8:30- 9:30 AM | Chap. 8: | Nitrogen Oxides Control NOx Formation and Emission Source Types and Components Operating Principles Capability & Sizing Video tape "Gas Re-burn, SNCR & SCR" |
| 9:30 – 9:45 | Break | |
| 9:45-10:-45 | Chap. 9: | Sulfur Oxides Control Types and Components Operating Principles Capability & Sizing |
| 10:45 -11:00 PM | | Questions/Comments and Discussion |
| 11:00 - 12:30 | | Post-test |
| 12:30 | ADJOURN | |

ABOUT THE INSTRUCTOR

Dr. Tim C. Keener, P.E., QEP, is a Professor Emeritus of Environmental Engineering at the University of Cincinnati (UC) in the School of Chemical and Environmental Engineering. He served as the Area Coordinator for the Air Pollution Control/Air Quality Management Program at UC for over 33 years. A long-time member of the Air and Waste Management Association, Dr. Keener was the Technical Editor-in-Chief of its technical journal, the *Journal of the Air and Waste Management Association* from 2003 - 2012. He obtained a B.S. in Mechanical Engineering and an M.S. and PhD in Environmental Engineering from the University of Tennessee. He has published over 200 technical papers and reports on topics related to air pollution control including the control of gaseous pollutants including SO_x and NO_x, and is the holder of 4 patents for air pollution control fundamentals and processes. His work in air pollution control is internationally known and he has directed the research of more than 65 M.S. and PhD graduates from UC. He currently is Vice-President and Director of Research and Training for Progress in Energy and the Environment LLC.