

Skills2Succeed in Collaboration with **Global Educational & Consulting Services**

PRESENTS

INDOOR AIR QUALITY & AN ASSESSMENT OF MOLD

(Course Code ETJD001)

OBJECTIVE:

To enhance awareness of the necessity and costs of providing and maintaining a good indoor air environmental program in buildings in order to prevent complaints and symptoms of sick building syndrome.

DESCRIPTION:

Improvement and maintenance of indoor air environment requires you to have an understanding of Indoor Air Quality (IAQ) parameters such as ventilation, thermal comfort and chemical contaminants and microorganisms. In the first part of the seminar, the three-stage approach to investigate and assess IAQ problems facing commercial, institutional and industrial buildings/personnel will be presented. A discussion on how to interpret the data/test results and various control strategies that could be used to address IAQ will take place. The second part of the seminar covers the techniques for assessing and investigating the presence of bacteria and fungi in buildings, interpretations of observations and test results and the possible solutions to control the microbiological proliferation.

The limitations of actual regulations/standards will be presented and revised ASHRAE Standards 62-1999 governing indoor air quality will be reviewed. An overview of instrumentation available for IAQ assessment will be reviewed. The role of judicial process and possible implications of regulations and standards will be discussed.

BENEFITS TO PARTICIPANTS:

Participants should be:

- Able to assess buildings (commercial, institutional and industrial) for IAQ related problems/issues.
- Able to recognize IAQ problems in the workplace and how to rectify them most economically.
- Capable of developing a comprehensive prevention programs to maintain a good indoor environment.
- Able to apply standards, regulations and recommendations concerning IAQ issues including microorganisms.
- Knowledgeable to interpret potential liability.
- Able in selecting the right instruments to diagnose IAQ problems.

WHO SHOULD ATTEND:

Engineers, HVAC Contractors, engineering consultants, industrial hygienists, health and safety personnel, facility operators, building managers/owners, maintenance personnel/supervisors and those individuals that perform IAQ evaluations; This seminar will also be of interest to anyone seeking a better understanding of some of the most popular tools used in improving indoor air quality (IAQ).

PROGRAM OUTLINE:

DAY 1

8:30 Introduction

Facts about Air Quality and IAQ

Causes of Indoor Air Quality Problems

Inadequate Ventilation

Temperature and Humidity Extremes

Other Physical Stressors

Chemical Contamination

Microbiological Contamination

9:30 Understanding the Indoor Environment

Discussion

An Engineering Perspective

A Model for Indoor Environmental Design

Accommodating Smokers under ASHRAE Standards

Calculating Ventilation Rates for Smoking Lounges

Air Pressure Zoning Concept

The Accommodation Model

10:15 Coffee Break

10:30 Preliminary Assessment

Background Assessment

Initial Site Visit

A Walk-Through Evaluation

11:00 Self-Evaluation of Indoor Air Quality Problems

Documentation of Complaints

Walk-Through Survey

Sampling Techniques

Assessment Summary

Case Study

12:30 Lunch

1:30 Workshop/Presentation I

Participants will meet in small groups to discuss and suggest the best possible solution to the each case study problem. A representative from each group will present the solutions to all participants. A discussion will follow.

3:30 Coffee Break

3:45 Guidelines

- Carbon Dioxide Levels
- Temperature
- Humidity
- Provision of Adequate amounts of Outside Air
- Interpretation of Results

General Recommendations

- Adequate Fresh Outdoor Air Supply
- Eliminate or Control Potential Sources of Chemical Contaminants
- Eliminate or Control Potential Sources of Microbial Contaminants

Conclusions and Follow-up Assessment

Summary

4:15 IAQ & Legal Perspective - I

- General Remarks
- Document! Document! Document!
- Reliable Guidance
- IAQ Complaints-Legal Challenges
- Leaving a Paper Trail
- Who is Responsible?
- Concluding Remarks

4:30 Adjournment

DAY 2

8:30 IAQ & Legal Perspective – II

- How to avoid getting sued for IAQ Problems
- Conclusions

9:00 An Assessment and Remediation of Mold

- How a Workplace gets Sick
- Health Issues and Indoor Mold
- Guidelines on Mold
- Assessment Process

Evaluation Criteria
Remediation Strategies
Preventive Maintenance

10:15 Coffee Break

10:30 Instrumentation

Air Differential Pressure Gage
Deflecting Vane Anemometer
Hot Wire Anemometer
Rotating Vane Anemometer
Capture Hood
Compound Gages
Micro manometer
Manometer/Inclined Manometer
Pitot Tube
U-Tube Manometer
Oxygen Monitors
Carbon Monoxide Monitors
Indoor Air Quality Monitors
Muti-Gas Monitors
Direct-Tube Tubes and Badges
Particulate Monitors
Radon

11:30 How to Improve IAQ? – Air Quality Products

Ozone (O₃) Generators
Electronic Air Cleaners

12:00 Lunch

1:00 Workshop/Presentation II

Participants will meet in small groups to discuss and suggest the best possible solution to the each case study problem. A representative from each group will present the solutions to all participants. A discussion will follow.

3:00 Coffee Break

3:15 Control Strategies

Source Control and/or Removal
Ventilation
Air Cleaning
Mechanical Filtration
Humidity Control

Regular Maintenance

3:45 Air Movement Pathways and Pressure Relationships

- Discussion
- Responding to Odor Complaints
- How Air moves through Buildings
- Building-Related Pressure Relationships
- Re-entrainment of Exhaust from Stacks
- HVAC Equipment-Related Pressure Relationships
- Assessment Techniques for Identifying Air Movement Pathways

4:15 Practical Tips

- Tips for Better IAQ
- Tips to select a Ventilation System
- How to get most out of your Equipment
- Common Errors/Problems in Ventilation
- Local Exhaust Ventilation: Something you should do and/or know
- Problems that can occur with Ventilation Systems

4:30 Concluding Remarks and Final Adjournment

SEMINAR LEADER:

Rishi Kumar, P.Eng., PMP is a registered Professional Engineer and Project Management Professional with over 34 years experience in the field of Mechanical Engineering, specializing in portfolio and project management, construction management, indoor air quality, HVAC, ISO auditing/quality management and training and development. As a Vice President-Engineering, Procurement & Construction (EPC) division at Global Technologies and Manufacturing (GTM), Mr. Kumar was involved in major international infrastructure projects (railway, airport, apartment/hotel developments, etc.). Before joining GTM, Mr. Kumar served as a Director of Operations responsible for production, procurement, quality and logistics of AZZ-Blenkhorn and Sawle Ltd. plant located in Ontario. He successfully implemented lean-manufacturing and just-in-time concepts at this plant. He obtained his Master of Science in Mechanical Engineering from University of Calgary. He has held many senior positions in construction, manufacturing, utility, auto industry, research & development, and consulting sectors in program and portfolio management of various capital projects. He has authored and co-authored technical papers on variety of topics and has presented at numerous national and international conferences. Since 1996 Mr. Kumar has conducted numerous professional development courses, seminars (public and in-house) and workshops (approx. 375+) for various universities and professional organizations throughout Canada, USA, Europe and Central America.

Mr. Kumar is a Certified Quality Auditor and carried out several quality systems (technical, manufacturing and process) audits for ISO 9001 internationally. Mr. Kumar is an active participant in

various professional boards and committees (PEO, PMP) since 1995 and also provides mentorship through various non-profit organizations in Ontario since 1994.

Rishi is the President and CEO of Global Educational and Consulting Services – a consulting firm specializing in developing and delivering quality training programs in engineering and management fields and providing mentoring services to not-for-profit organizations (Skills for Change, Access Employment, etc) in Greater Toronto area of Ontario.

COURSE MATERIAL:

Each participant will receive a complete set of course notes and handouts that will serve as informative references.

CONTINUING EDUCATION UNITS (CEUs):

Each participant will receive a certificate of course completion indicating 1.4 CEUs. CEUs are universally recognized nationally and internationally. One CEU is equivalent to ten (10) professional development hours (PDHs).

DATES AND TIMES:

Dates: Monday, April 19 and Tuesday, April 20, 2010.

Times: From 8:30 a.m. to 4:30 p.m. (Please arrive early).

When registering enter Course Code: ETJD001.

LOCATION:

Delta Toronto Airport West Hotel

5444 Dixie Road,
Mississauga, Ontario
L4W 2L2

OTHER:

Dress comfortably and business casual. Arrive early. Parking available at hotel parking lot.

Each participant will receive transferable credits towards future courses, workshops and seminars.

For an effective and productive interaction to take place, this seminar has been restricted to a limited number of seats. Please register early to avoid any disappointment.

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Note: Skills2Succeed reserves the right to cancel a course, workshop or seminar, or change the location of the course, workshop or seminar at any time at its discretion, without any liability to the attendees exceeding the fees collected.