Brazosport College

Syllabus for EPCT 2431 - Industrial Hygiene Applications

Instructor: Craig E. Litton, Dr. P.H
Office: L.204B
Office Phone: 979.230.3507
Alt. Phone: 979.230.3618
email: craig.litton@brazosport.edu
Fax: 979.230.3341

I. COURSE DESCRIPTION

EPCT 2431 Industrial Hygiene Applications. CIP 1505070011
A study of the industrial environment and its relation to worker’s health. This course provides training in anticipation, recognition, evaluation, and controlling health hazards-particularly chemical, physical, biological, and ergonomic factors existing in the workplace and having injurious effects on workers. The course also introduces training in instrumentation use in monitoring and measuring health hazards in the workplace and covers current issues in industrial hygiene. (4 SCH, 3 lecture, 1 lab)

_____________________________ ________________________________
Craig E. Litton, Dr. P.H. Samuel Chamberlain, M.S.

_____________________________ ________________________________
Gary Hicks Jeff Detrick

January 2017
A. **Prerequisite**: EPCT 1441.  
**Required skill level**: College-level reading, writing and math.

II. **COURSE OBJECTIVES**

The following list of course goals will be addressed in the course.

1. Demonstrate an understanding of the impacts of hazards on workers  
   - Identify and describe the health effects of specific hazards.  
   - Identify and describe hazards associated with specific sources and processes.  
   - Assess risks to population health.  
   - Prioritize hazards, exposures and controls.  
   - Communicate effectively with variety of stakeholders.  
   - Interpret and disseminate policies.  
   - Manage resources effectively.  
   - Develop and implement health and safety programs.  
   **Assessment**: Class discussion, quizzes and exams

2. Understand, interpret and apply regulations in a business environment  
   - Recognize the influence of cultural and social factors in occupational health practice.  
   - Measure and evaluate programs.  
   - Interpret and use exposure guidelines.  
   - Recommend, evaluate and implement appropriate controls.  
   **Assessment**: Class discussion, quizzes and exams

3. Gather, manage, and analyze data  
   - Interpret and apply scientific findings.  
   - Design and implement exposure assessment strategies.  
   **Assessment**: Class discussion, quizzes and exams

4. Understand and be able to apply professional standards.  
   - Communicate effectively with health and safety professionals.  
   - Know, understand and apply ethical code.  
   - Model and judge appropriate ethical behavior.  
   **Assessment**: Class discussion, quizzes and exams

5. Demonstrate the ability to apply this knowledge in an investigation of a particular area of industrial hygiene.  
   **Assessment**: Class discussion, quizzes and exams, Term Project

III. **STUDENT LEARNING OUTCOMES**

Identify the impact of hazards on workers; interpret and apply regulations in a business environment; gather, manage, and analyze data; apply professional standards; prepare a report on various areas of industrial hygiene based on student investigations.
IV. TEXTBOOK OR COURSE MATERIAL INFORMATION

A. Textbook

2. Visorgogs-Safety Glasses

Quick Study Guides from BC Bookstore on (you may save and reuse guides from prior classes)

   Anatomy           Periodic Table
   Chemistry         Physics
   Chemistry Lab Basics Respiratory System
   Essays and Term Papers Senses
   First Aid         Weights and Measures

Industrial Hygiene Laboratory Manual from National Environmental Health Association


Industrial Hygiene Workbook: The Occupational Health Sciences, D. Jeff Burton, IVE Press, 2006, provided in Class.

Required course materials are available at the Brazosport College bookstore, on campus or online at http://www.brazosport.edu/bookstore. A student of this institution is not under any obligation to purchase a textbook from the college bookstore. The same textbook is/may also be available from an independent retailer, including an online retailer.

For Distance Education Courses include the following: Contact the Brazosport College Bookstore with a credit card for course materials. Phone: 979.230.3651. Fax: 979.230.3653. Email: bookstore@brazosport.edu. Website: http://www.brazosport.edu/bookstore
B. Course Outline

This is a sample outline which may vary with individual instructors. It will also vary based on whether the course is a summer course or a fall/spring course. Students should contact their instructor for the outline of the course they are taking.

<table>
<thead>
<tr>
<th>Date</th>
<th>EPCT 2431 Industrial Hygiene Application</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Syllabus</td>
<td></td>
</tr>
<tr>
<td>18-Jan-12</td>
<td>Occupational Health and EPA Standards</td>
<td></td>
</tr>
<tr>
<td>25-Jan-12</td>
<td>The Eyes – Anatomy, Physiology, and Pathology</td>
<td></td>
</tr>
<tr>
<td>1-Feb-12</td>
<td>The Ears</td>
<td></td>
</tr>
<tr>
<td>8-Feb-12</td>
<td>Thermal Stress</td>
<td></td>
</tr>
<tr>
<td>15-Feb-12</td>
<td>Indoor Air Quality</td>
<td></td>
</tr>
<tr>
<td>22-Feb-12</td>
<td>Particulates</td>
<td></td>
</tr>
<tr>
<td>29-Feb-12</td>
<td>Vapors and Fumes</td>
<td></td>
</tr>
<tr>
<td>7-Mar-12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-Mar-12</td>
<td>Mid Term Exam</td>
<td></td>
</tr>
<tr>
<td>21-Mar-12</td>
<td>Potable Water, Water Based Solutions and Liquids</td>
<td>Presentations Begin</td>
</tr>
<tr>
<td>28-Mar-12</td>
<td>Natural Water Sources and Waste water</td>
<td></td>
</tr>
<tr>
<td>4-Apr-12</td>
<td>Advanced Water Sample Analysis</td>
<td>Term Papers Due</td>
</tr>
<tr>
<td>11-Apr-12</td>
<td>Microscopy</td>
<td></td>
</tr>
<tr>
<td>18-Apr-12</td>
<td>Biological Hazards</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Overview of OSHA, NTSB and Other Approaches to</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Investigations, Presentation of Term Projects,</td>
<td></td>
</tr>
</tbody>
</table>

Chapter Readings: Each student should come to class prepared to discuss the chapters assigned for that class. Students will be called upon in random order. All chapters will be discussed for each class.

Current Events: Each student should come to class with a current events report about Industrial Hygiene from a credible news source {PBS, Reuters, BBC, Associated Press: Do NOT use Tabloids, TV or New York Times}

Calculator: You will need to have a basic scientific calculator to do sums, basic and log math
### MODULE 1 Activities

**Topics: Occupational Health Programs**
- Occupational Health
- Medical Monitoring

**The Skin – Anatomy, Physiology, and Pathology**
- Natural Barrier and Defense Mechanisms
- Predisposing Factors
- Classification of Occupational Skin Disease
- Prevention and Control

**Readings from Textbook: Be Prepared to Discuss in Class**
*Fundamentals Of Industrial Hygiene*
- Chapter Three: The Skin and Occupational Dermatoses
- Chapter Twenty-Five: The Occupational Medicine Physician
- Chapter Twenty-Six: The Occupational Health Nurse

**Class Readings:**
*Case Studies: Sixty Practical Applications of OH&S Control Principles*
- 13 – The Farm Worker’s Dilemma

*Industrial Hygiene Workbook: The Occupational Health Sciences*
- 5 – Physiology and Anatomy
- 7 – Occupational Medicine/Occupational Diseases
- 10 – Environmental Evaluation: Biological Monitoring

**Reference Literature**
*Industrial Hygiene Evaluation Methods*
- Unit 26.

### MODULE 2 Activities

**Topics: The Eyes– Anatomy, Physiology, and Pathology**
- Eye Function
- Vision Mechanism
- Use of Vision Testing Equipment
- Color Blindness

**Readings from Textbook: Be Prepared to Discuss in Class**
*Fundamentals Of Industrial Hygiene*
- Chapter Five: The Eyes

**Class Readings:**
*Case Studies: Sixty Practical Applications of OH&S Control Principles*
- 23 – Cut to the Heart Like a Laser
- 51 – The VDT Attack

*Industrial Hygiene Workbook: The Occupational Health Sciences*
- 5 – Physiology and Anatomy
<table>
<thead>
<tr>
<th>MODULE</th>
<th>Activities</th>
</tr>
</thead>
</table>
| 3      | **Topics: The Ears and Hearing—Anatomy, Physiology, and Pathology**  
   - Hearing Concepts  
   - Effects of Noise  
   - Audiometric Testing  
   - Hearing Protection  
   - Audiometric Testing  

Readings from Textbook: Be Prepared to Discuss in Class  
*Fundamentals Of Industrial Hygiene*  
   - Chapter Four: The Ears  
   - Chapter Nine: Industrial Noise  

Class Readings:  
*Case Studies: Sixty Practical Applications of OH&S Control Principles*  
   - 6 – The Case of the Multiple Causes  
   - 12 – Management Control or Else  
   - 58 – Modeling an Accident  

*Industrial Hygiene Workbook: The Occupational Health Sciences*  
   - 19 – Sound, Noise, and Hearing

<table>
<thead>
<tr>
<th>MODULE</th>
<th>Activities</th>
</tr>
</thead>
</table>
| 4      | **Topics: Thermal Stress**  
   - Heat Stress  
   - Hot Work Environments  
   - OSHA Heat/Work Guidelines  
   - Cold Work Environments  

Readings from Textbook: Be Prepared to Discuss in Class  
*Fundamentals Of Industrial Hygiene*  
   - Chapter Twelve: Thermal Stress  

Class Readings:  
*Case Studies: Sixty Practical Applications of OH&S Control Principles*  
   - 30 – One Hot Momma  
   - 59 – Winter Takes its Toll – Modeling a Death  

*Industrial Hygiene Workbook: The Occupational Health Sciences*  
   - 18 – Thermal Environments

**Reference Material**  
*Industrial Hygiene Evaluation Methods*  
   - Unit 1, 2  

*Environmental Laboratory Exercises for Instrument Analysis and*
## Module 5

### Topics: Indoor Air Quality
- Heating, Ventilation and Air Conditioning Systems
- Comfort Temperature and Humidity
- Industrial Ventilation Systems
- Indoor Air Pollution: Particulates, Carbon Monoxide, Carbon Dioxide, other
- Sampling and Measurement

### Readings from Textbook: Be Prepared to Discuss in Class
*Fundamentals Of Industrial Hygiene*
- Chapter Sixteen: Air Sampling

### Class Readings:
*Case Studies: Sixty Practical Applications of OH&S Control Principles*
- 29 – IAQ Complaints at Corporate Headquarters
- 35 - IAQ Complaints in an Office Complex
- 37 – IAQ Complaints Older Office Building
- 39 – Improbable + Unlikely = IAQ Trouble
- 41 – The No Smoking Dilemma
- 43 – Possible IAQ Problem at a Light Manufacturer
- 46 – Taking Air For Granted
- 49 – The Curse of Tobacco Smoke in a Nevada Bar
- 52 – Triple R Dilemma
- 60 – Odor Control Maintains Good IAQ

*Industrial Hygiene Workbook: The Occupational Health Sciences*
- 15 – Indoor Air Quality

### Reference Material
*Environmental Science*
- Chapter 18

## Module 6

### Topics: Particulates
- Asbestos
- Silica
- Textiles
- Particle Monitoring

### Readings from Textbook: Be Prepared to Discuss in Class
*Fundamentals Of Industrial Hygiene*
- Chapter Eight: Particulates
• Chapter Sixteen: Air Sampling

Class Readings:
*Case Studies: Sixty Practical Applications of OH&S Control Principles*
- 8 – The Delicate Crane
- 11 – The Old Zinc – Plating Scam
  - 17 – Scrap Recycling Facility Controls
  - 34 – Permission to Emit
  - 44 – Silica Exposure Leads to Loss of Pulmonary Function

*Industrial Hygiene Workbook: The Occupational Health Sciences*
- 10 – Environmental Evaluation: Air Sampling and Analysis
- 16 – Air Pollution

<table>
<thead>
<tr>
<th>MODULE</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Topics: Gases and Vapors Monitoring</td>
</tr>
<tr>
<td></td>
<td>• Draeger Tubes, Pumps and Similar Devices</td>
</tr>
<tr>
<td></td>
<td>• Personal Exposure Sampling</td>
</tr>
<tr>
<td></td>
<td>• Oxygen Levels</td>
</tr>
<tr>
<td></td>
<td>• Explosive Limits</td>
</tr>
<tr>
<td></td>
<td>• Lower Explosive Limit Meter Calibration and Use</td>
</tr>
<tr>
<td></td>
<td>• Multimeter Calibration and Use</td>
</tr>
</tbody>
</table>

Readings from Textbook: Be Prepared to Discuss in Class
*Fundamentals Of Industrial Hygiene*
- Chapter Seven: Gases, Vapors, and Solvents
- Chapter Seventeen: Direct Reading Instruments for Gases, Vapors, and Particulates

Class Readings:
*Case Studies: Sixty Practical Applications of OH&S Control Principles*
- 9 – Cooling Plastic Creates Exposure to Gas and Vapor
- 37 – IAQ Complaints Older Office Building
- 58 – Modeling an Accident

*Industrial Hygiene Laboratory Manual*
- Exercise 7 – Gas and Vapor Sampling Survey

Reference Material

*Industrial Hygiene Evaluation Methods*
- Units 3, 7, 9, 10, 12, 13, 15

*Gas Detection Handbook*

<table>
<thead>
<tr>
<th>MODULE</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Topics: Potable Water, Water Based Solutions and Liquids</td>
</tr>
<tr>
<td></td>
<td>• Water Sample Collection</td>
</tr>
</tbody>
</table>
- Water Quality Standards
- Water Solution Properties
- Non-water Liquid Properties
- pH Definition and Testing
- Specific Gravity Definition and Testing

**Class Readings:**


**Reference Material**

*Environmental Science*
  - Chapter 18

*Environmental Laboratory Exercises for Instrument Analysis and Environmental Chemistry*
  - Chapter 21, 22

*Environmental Sampling and Analysis Laboratory Manual*
  - Chapters, 9, 10, 18, 21

<table>
<thead>
<tr>
<th>MODULE</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Mid Term Exam</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MODULE</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Topics: Natural Water Sources and Wastewater</td>
</tr>
<tr>
<td></td>
<td>- Collection of Samples</td>
</tr>
<tr>
<td></td>
<td>- Total Dissolved Solids Definition and Testing</td>
</tr>
<tr>
<td></td>
<td>- Biological Oxygen Demand Definition and Testing</td>
</tr>
<tr>
<td></td>
<td>- Refractivity Measurement</td>
</tr>
<tr>
<td></td>
<td>- Plating Agar and Incubation</td>
</tr>
</tbody>
</table>

**Class Readings:**

*Case Studies: Sixty Practical Applications of OH&S Control Principles*
  - 22 – Complaints in Bank Lobby – Determining Causes of Complaints
  - 29 – IAQ Complaints at Corporate Headquarters

*Laboratories 2000*, Indiana State Department of Health Laboratories

**Reference Material**

*Environmental Laboratory Exercises for Instrument Analysis and Environmental Chemistry*
  - Chapter 24 – 26
<table>
<thead>
<tr>
<th>MODULE</th>
<th>Activities</th>
</tr>
</thead>
</table>
| 11     | Topics: Advanced Water Sample Analysis  
|        | - Colorimetric Analysis  
|        | - Spectrophotometry  
|        | - Gas Chromatography/Mass Spectrometry  
|        | - Preparing Agar Plates and Microbial Cultures |
| 12     | Topics: Microscopy  
|        | - Theory, Function, Cleaning and Care  
|        | - Slide Mounting and Identification  
|        | - Sampling and Reading Agar Plates  
|        | - Slide Staining and Preparation  
|        | - Reading Slides |

**Readings from Textbook: Be Prepared to Discuss in Class**

*Fundamentals Of Industrial Hygiene*
Chapter Fourteen: Biological Hazards

**Class Readings:**
*Case Studies: Sixty Practical Applications of OH&S Control Principles*
16 – A Biological Scare  
57 – The Mystery Epidemic

*Basic Microscopy Setup* by Frederic A. Tulleners, California Criminalistics Institute

*Guide to Laboratory Services: Microbiology*, Arizona Department of Health Services, Bureau of State Laboratory Services

<table>
<thead>
<tr>
<th>MODULE</th>
<th>Activities</th>
</tr>
</thead>
</table>
| 13     | Topics: Biological Hazards  
|        | - Bloodborne Pathogens  
|        | - Communicable Diseases  
|        | - Critters |

**Readings from Textbook: Be Prepared to Discuss in Class**

*Fundamentals Of Industrial Hygiene*  
- Chapter Fourteen: Biological Hazards
Class Readings:
*Case Studies: Sixty Practical Applications of OH&S Control Principles*
- 7 – The Case of the Mysterious Lab Smells
- 33 – IAQ Complaints in an Engineering Office
- 45 – Spray Crazy

<table>
<thead>
<tr>
<th>MODULE</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Topic: GCMS Instrumentation Lab</td>
</tr>
<tr>
<td>14</td>
<td>Topic: Forensics Science</td>
</tr>
<tr>
<td></td>
<td>Final Review and Term Paper Presentations</td>
</tr>
<tr>
<td>15</td>
<td>Final Exam:</td>
</tr>
</tbody>
</table>

**Important Semester Date:**
Last Day to withdraw from classes– March 30\textsuperscript{th}

V. **LAB REQUIREMENTS**
Active participation in laboratory procedures, tests, sample collection and analysis is required.

VI. **STUDENTS WITH DISABILITIES**
Brazosport College is committed to providing equal education opportunities to every student. Brazosport College offers services for individuals with special needs and capabilities including counseling, tutoring, equipment, and software to assist students with special needs. Please contact the Special Populations Counselor, 979.230.3236, for further information.

VII. **ACADEMIC HONESTY**
Brazosport College assumes that students eligible to perform on the college level are familiar with the ordinary rules governing proper conduct including academic honesty. The principle of academic honesty is that all work presented by you is yours alone. Academic dishonesty including, but not limited to, cheating, plagiarism, and collusion shall be treated appropriately. Please refer to the Brazosport College Student Guide for more information. This is available online at [http://www.brazosport.edu](http://www.brazosport.edu). Click on the CATALOGS AND SCHEDULES link under STUDENTS.

Academic dishonesty violates both the policies of this course and the Student Code of Conduct. In this class, any occurrence of academic dishonesty will be referred to the Dean of Student Services for prompt adjudication. Sanctions may be imposed beyond your grade in this course by the Dean of Student Services.
VIII. ATTENDANCE AND WITHDRAWAL POLICIES
Class attendance contributes to your final grade, but you must attend class to successfully complete the course. If you are unable to complete this course, you must complete and submit a withdrawal form with the registrar’s office. If the student decides to drop out of the class it is the responsibility of the student to initiate a withdrawal before the withdrawal deadline in order to get a “W” on their transcript. If this is not done the student will receive a grade based on test grades and class grades earned during their attendance and absence (i.e. zeros on all missed materials, exams, skills tests, and final exam).

The Instructor may count tardiness as a partial absence. Since a significant part of the grade is based on class attendance, students are expected to be on time and attend the full class, until dismissed by the Instructor.

General Brazosport College Policies and Procedures apply to self-initiated course withdrawal and the time period within which that may occur. Please check with the current published College information for details.

The Instructor has the option to forcibly drop a student within the College allowed time period if the student misses three classes. Students who miss three or more classes may be assumed to have abandoned the class and may be dropped. It is the Student’s responsibility to contact the Instructor and explain any and all missed class time.

Since attendance is so important a part of the learning experience it has become necessary to modify the grading system. Full Fall and Spring Semesters have typically about 15 weeks of classes depending on holidays and exams schedule. For regular classes that means about 13 weeks of educational activity aside from mid-term and finals. Someone missing 3 classes then has missed almost 25% of course content.

Partial class attendance, arriving late or leaving early can result in a % loss of that day’s attendance. For all absences after the 2nd absence each absence will count as 2 classes missed.

IX. COURSE REQUIREMENTS AND GRADING POLICY

A. Grading:
   - Midterm Exam: 20%
   - Final Exam: 20%
   - Quizzes: 20%
   - Term Project: 20%
   - Attendance and Participation: 20%

B. Scoring:
   - A (90 - 100%) -- Unqualified and unsurpassed mastery of the learning outcomes
   - B (80 - 89.9%) -- Unqualified mastery of the learning outcomes
   - C (70 - 79.9%) -- Qualified mastery of the learning outcomes
   - D (60 - 69.9%) -- Mastery of the learning outcomes but with significant qualifications
   - F (0 - 59.9%) -- Has not mastered the learning outcomes
   - I (Incomplete) -- Failed to complete assigned components.
Honest and serious participation in each of the five course elements is required to pass the course. A failing grade will be assigned regardless of the overall score if the student fails to complete any one of the following items:
1. Complete the mid-term exam
2. Submit a term paper,
3. Submit a presentation,
4. Complete the final exam.

C. Testing:
A Mid Term and a Final Exam are required. A variety of quizzes or assignments in place of quizzes may be presented at the discretion of the Instructor.

D. Make-Up Policy:
A student will normally be given only one week in which to make up missed quizzes or assignments. Students who miss class delay the ability of other students to received timely feedback on their work.

It is the responsibility of each student to contact the Instructor on the day following the absence and to make time to come in before the next class to clear up the missed quiz or assignment.

The Instructor is usually expected to give a score of zero to quizzes or assignments that are two weeks or more late. If a quiz must be discussed with the class a week after it has been taken and the student has not been able to make up the quiz beforehand, and the student is absent for a second week and would delay class review if the quiz outcome, the student may receive a zero score.

X. STUDENT RESPONSIBILITIES
Students are expected to fully participate in this course. The following criteria are intended to assist you in being successful in this course:
1. Understand the syllabus requirements
2. Use appropriate time management skills
3. Communicate with the instructor
4. Complete course work on time, and
5. Utilize online components (such as Desire2Learn) as required.

A. Housekeeping:
1) Keep the room ready for the next class. When you leave each evening, the room is to be returned to the condition it was in when you arrived, or better.
2) We do not want to look like we were raised in a barn. Keep it clean and place all trash in the proper containers before you leave.
3) Do not alter the computer or audio-visual electronics. Improper use of computer and other equipment in violation of Brazosport College policies may result in penalties according to College rules.
B. Expectations:
1) You are largely responsible for your own success or failure as a student.
2) As a minimum, students are expected to read the assigned chapter(s) each week. Being prepared is a necessary part of your continuing education and a vital part of the construction industry.
3) We expect all assignments to be completed on time and to the best of your ability.
4) While we encourage cooperation with your fellow students, academic honesty is the standard; you are solely responsible for your own work.
5) We expect and will demand adult behavior in the classroom, both physical and on-line. We expect to have fun and hope you do too.
6) If there is a problem with the material call upon the instructor first for help.
7) There are no bad questions. Always ask if you are unsure.

C. Student Responsibilities:
1) This is not a self-paced course, but requires weekly interaction with the class and the instructor. Like Woody Allen said “Most of Life is about showing up”.
2) Assignments such as term papers require a great deal of self-discipline to complete, as much of what is done is at your pace (within the timelines that the instructor has established in the syllabus)
3) It is your responsibility to read the syllabus and other information provided by the instructor, and to follow the instructions contained therein.
4) If you fail to submit assignment(s) or tests on time, the instructor has the option of not accepting the late work, or accepting the late work with a downgrade penalty.
5) You should make every effort to stay on track with the assignments, as it is very difficult to “play catch-up.”
6) If for any reason you should fall behind in their work, (illness, accident, temporary duty, etc.) contact the instructor immediately.
7) You must complete exams/papers and assignments prior to the end of the scheduled term, or risk being graded zero for that work and run the risk of failure of the course
8) At times, life situations occur where you will need to make hard choices between getting a good grade in a course (or even finishing it) and other priorities in your life, such as a job, family, etc. It is up to each student to make those choices. Occasionally, one will have to make the commendable choice that job or family must take priority and then live with the consequences that has on your studies and GPA.
   The College has an ethical obligation to ensure that a level playing field is provided for all students, so those who make the hard choices don’t get short changed by students who ask for extra time to get their school work done when they haven't made those hard choices.
9) Extensions/Incompletes are NOT a right, but a VERY RARE exception that are granted only in the most extraordinary of situations. If you feel that you will require an extension/incomplete (again, the exception, not the rule), it is your responsibility to contact the instructor BEFORE THE END OF THE COURSE and make this request. In most cases, written third party documentation will be required to support your request. It is at the discretion of the instructor whether an extension/incomplete will be granted and for what length of time it will be granted, with an absolute maximum extension period of 90 days.
D. Student Computer Responsibilities:
   1) It is a fact of life that we must use computers to complete class work, access presentations and take some tests. You should have a computer, software, and internet access at hand to do this. If you do not, at best consult with the LAC in E-201. There are numerous campus resources available to you.
   2) The default software being used is Microsoft Word for text documents and Microsoft PowerPoint for presentations. At a minimum, readers for these programs are downloadable free from the www.microsoft.com website.
   3) The computer ate my homework is not an acceptable excuse. It is a fact of life that computers are not perfectly reliable, and those computers using Windows have a certain reputation. Users should learn how to survive and readily recover from crashed programs and the need to reboot. When creating your own work you should save the document after each page and learn how to recover from computer problems. If worse comes to worse, read the manuals.
   4) The instructor generally cannot help you solve your computer problems. Exception – problems with our files, in which case the Instructor will help to the best of ability.
   5) You are responsible for your own SPAM and viruses. No one should use personal computers, email or the Internet for these courses without possessing their own anti-virus software. If you open a strange email and get your computer infected with a virus, it is your own doing and your own responsibility. You should learn how to block unwanted email.

E. Telecommunication Devices:
   1) All pagers, cell phones, “Blackberry” e-mail type devices, and PDA’s MUST be turned completely off and stowed so that you cannot access them in the classroom.
   2) Calculators are for sale in the BC Bookstore to support math problems, as long as they do not have stored test information they may be used.
   3) Cheating via use of telecommunications devices will result in an immediate ZERO for the test involved and may result in further penalties.

F. BC COMPUTER ACCOUNTS: Each student is expected to go to IT services and obtain a computer account, BEFORE the second class of the term. They can be reached at 979-230-3266. You may need to call for an appointment before class for evening classes. Improper use of computer accounts in violation of Brazosport College policies may result in penalties according to College rules. Be aware that ALL online activity is monitored and logged; you have NO right to privacy.

G. College Website www.brazosport.edu You should learn to use the college website to find most student information. If you need to take computer classes to learn to use the internet or other computer programs please check with LAC in E-201.

H. CLASSROOM COPYRIGHT: An implicit copyright of original work not otherwise referenced from others exists for all class materials. Visual or audio recording of class activity is restricted to the College and Instructor. No class material or activity may be recorded or posted on the Internet except by approval of the Instructor.
I. Notes on Schedule: A general sixteen-week recommended schedule follows in this document. The instructor will adjust it to meet the details of the specific semester schedule, recognizing variances due to Brazosport College exam schedules, State and Federal Holidays and the availability of such items as a guest speaker.

XI. PROJECTS, ASSIGNMENTS, PORTFOLIOS, SERVICE LEARNING, INTERNSHIPS, ETC.

A ten page report on a relevant topic or book report. This must be original work not a duplication of work for another class.

The general rules for all narrative papers are:

- MS Word Document format submitted both electronically and in hardcopy; if not in MS Word will be rejected; if you need to convert from MS Works, WordPerfect or other obtain help from Learning Center before due date.
- All such reports are scanned via Turnitin.com for plagiarism
- Format must be 1” margins all around, Times Roman 12 point font, 1.5 lines spacing; use Page Setup
- Do Not use “quotes” for emphasis (as shown here). Quoted material is to be a single spaced block, additionally indented one inch, quote marks at start and end of block.
- No more than ½ page of illustration counts to the narrative page count. Excess will not be included in page count.
- No more than ½ page of quoted material counts toward the narrative page count. Excess will not be included in page count.
- Cover and reference citation pages are required but do not count toward the narrative page count
- Pages short will affect score to the nearest half page: e.g. -10 points for ½ page short, etc.
- Improper use may also reduce page count and or score

Due Dates for Term Paper Projects

These due dates are for your safety so that if you have problems the Professor or Instructor can help you recover before end of term. If you wait until the last moment you can fail the course.

For all Fall and Spring Term Sixteen Week Classes:
Due on or before Lesson 11 end of class:
Late penalties apply:
-10 points if received between end of class 11 and midnight before the start of class 12;
-20 points if received between end of class 12 and midnight before the start of class 13;
-40 points if received between end of class 13 and midnight before the start of class 14;
-80 points if received between end of class 14 and midnight before the start of class 15; no paper
A. Presentation
A PowerPoint and oral presentation of 15 to 30 slides on an IH technology or other issues. These will be presented starting first class after Mid Term, 2-3 per night until the week before Final Exam. The topics must be selected and approved by the instructor before the end of 3rd class or one will be assigned.

XII. OTHER STUDENT SERVICES INFORMATION
Information about the Library is available at http://www.brazosport.edu/library or by calling 979.230.3310.
For assistance with online courses, an open computer lab, online and make-up testing, audio/visual services, and study skills, visit Learning Services next to the Library, call 979.230.3253, or visit http://www.brazosport.edu/learningservices.
For drop-in math tutoring, the writing center, supplemental instruction and other tutoring including e-tutoring, visit the Student Success Center, call 979.230.3527, or visit http://www.brazosport.edu/studentsuccesscenter.
To contact the Physical Science and Process Technologies Department call 979.230.3618.
The Student Services provides assistance in the following:

- Counseling and Advising 979.230.3040
- Financial Aid 979.230.3294
- Student Life 979.230.3355

To reach the Information Technology Department for computer, email, or other technical assistance call the Helpdesk at 979.230.3266.

Get the information you need – when you need it. Click http://geni.us/BRAZO to install BC Connect on your mobile device to receive reminders, explore careers, map your educational plan, be in the know about events, find out about scholarships, achieve your goals and much more.
### WECM Course

#### Industrial Hygiene Applications

<table>
<thead>
<tr>
<th>CIP</th>
<th>Rubric</th>
<th>Number</th>
<th>Course Title</th>
<th>Status</th>
<th>Semester Credit Hrs</th>
<th>Min Cont Hrs</th>
<th>Max Cont Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.0507</td>
<td>EPCT</td>
<td>2331</td>
<td>Industrial Hygiene Applications</td>
<td>Active</td>
<td>3</td>
<td>48</td>
<td>96</td>
</tr>
<tr>
<td>15.0507</td>
<td>EPCT</td>
<td>2431</td>
<td>Industrial Hygiene Applications</td>
<td>Active</td>
<td>4</td>
<td>64</td>
<td>96</td>
</tr>
</tbody>
</table>

**Course Level:** Advanced

**Course Description:** A study of the industrial environment and its relation to worker's health. This course provides training in anticipation, recognition, evaluation, and controlling health hazards—particularly chemical, physical, biological, and ergonomic factors existing in the workplace and having injurious effects on workers. The course also introduces training in instrumentation used in monitoring and measuring health hazards in the workplace and covers current issues in industrial hygiene.

**Learning Outcomes:** Identify the impact of hazards on workers; interpret and apply regulations in a business environment; gather, manage, and analyze data; apply professional standards; prepare a report on various areas of industrial hygiene based on student investigations.

**Lab Recommended**

**Cross Reference(s):** EPCT 2031: Industrial Hygiene Applications

**CIP Code Description:** 15.0507 (Environmental Engineering Technology/Environmental Technology)

**Year:** 2006