

Template A

	<p>compliance and workers' compensation, accident investigation, occupational health hazards, emergency response, ergonomics, fleet safety, ethics, and safety program success measurement. Case studies and small group activities prepare students for further in-depth study of these topics and their roles as safety and health professionals.</p>
<p>Student Learning Outcomes</p> <p><i>(These should be measurable, appropriate to the course level, and phrased in terms of student achievement, not instructional or content outcomes)</i></p> <p><i>If dual listed, indicate additional learning objectives for the higher level course</i></p>	<p>Students completing this course will be able to:</p> <ul style="list-style-type: none"> A. Describe the history of safety and health in the natural gas industry and the events resulting in safety and health legislation. B. Define the major hazards associated with each step of natural gas procurement, development and transport. C. Describe established methods used for recognizing, evaluating and controlling occupational health exposures and risk in the natural gas industry. D. Explain the basic principles of emergency preparedness and response including identifying pertinent standards and fire hazards/controls unique to the natural gas industry. E. Describe the basic program elements and implementation requirements for an effective fleet safety program. F. Explain how accident investigation strategies can determine root causes of workplace accidents in the various stages of natural gas procurement, development and transport G. Apply reporting, recording and accident investigation strategies to the various stages of natural gas procurement, development, and transport.
<p>Brief Course Outline:</p> <p><i>Give an outline of sufficient detail to communicate the course content to faculty across campus. It is not necessary to include specific readings, calendar, or assignments.</i></p>	<ul style="list-style-type: none"> A. Status of Worker Protection in Natural Gas Procurement, Development and Transport (5 Hours) <ul style="list-style-type: none"> 1. History of Occupational Safety and Health in the natural gas industry <ul style="list-style-type: none"> ▪ Case studies of large losses ▪ Global disasters and the legislation that followed 2. Other important legislation and safety standards <ul style="list-style-type: none"> ▪ Construction Safety Act ▪ OSH Act and OSHA Recordkeeping ▪ American Petroleum Institute Standards ▪ EPA and state regulations (e.g., PA DEP Chapter 78) B. Basics of the Natural Gas Procurement, Development and Transport Process (4 Hours) <ul style="list-style-type: none"> 1. Steps to finding gas <ul style="list-style-type: none"> ▪ Seismic ▪ Landowners ▪ Permitting 2. Steps to preparing site for gas extraction 3. Extraction 4. Production (well site production, compression, pipeline) 5. Review of basic hazards of steps <ul style="list-style-type: none"> ▪ Lease construction ▪ Drilling ▪ Workover/Well Servicing

	<ul style="list-style-type: none"> ○ Wireline ○ Snubbing ○ Coiled Tubing ○ Production ○ Well Site ○ Compression ○ Pipeline <p>6. Current safety, health and environmental issues in natural gas extraction industry</p> <p>C. Basic Hazard Identification Techniques (5 Hours)</p> <ul style="list-style-type: none"> 1. Inspections 2. Audits 3. Job safety analysis 4. Haz Op studies 5. Current business applications of hazard identification (data management tasks) <p>D. Managing Workers' Compensation in Various States (4 Hours)</p> <ul style="list-style-type: none"> 1. Legislation 2. Definition 3. Coverage 4. Program elements 5. Cost containment strategies 6. Professional liability under various states' Workers' Compensation Acts <p>E. Accident Investigation (5 Hours)</p> <ul style="list-style-type: none"> 1. Accident causation theories 2. Modern strategies for accident investigations 3. Step-by-step conducting of an effective accident investigation 4. Preventing recurrence through meaningful recommendations and implementation 5. Using accident Statistics and software packages to support safety program efforts 6. Handling catastrophic loss at the personal level for all stakeholders <p>F. Environmental Safety and Industrial Hygiene (6 Hours)</p> <ul style="list-style-type: none"> 1. Recognizing occupational health exposures 2. Evaluating and controlling health hazards 3. Managing environmental risk 4. Legislation overview 5. Current issues in the natural gas industry <p>G. Fire and Emergency Response (4 Hours)</p> <ul style="list-style-type: none"> 1. Principles of fire protection
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	<ol style="list-style-type: none"> 2. Recognizing fire hazards, hazardous locations, and their controls 3. Pertinent standards 4. Local, regional and Federal emergency planning regulations
	<p>H. Fleet Safety (3 Hours)</p> <ol style="list-style-type: none"> 1. Extent of exposure 2. Basic program elements and implementation requirements 3. Driver selection, development and control 4. Preventative maintenance 5. Recordkeeping
	<p>I. Ergonomics (2 Hours)</p> <ol style="list-style-type: none"> 1. Fundamentals of human performance 2. Common ergonomic hazards in natural gas industry 3. Hazard analysis and engineering controls 4. Current issues in ergonomic protection
	<p>J. Managing the Safety Functions (4 Hours)</p> <ol style="list-style-type: none"> 1. Principles of fire protection 2. Codes of ethics 3. Getting the job done (setting goals, assigning responsibility, accountability and authority, safety program maintenance, behavior based safety initiatives) 4. Maintaining priorities (safety metrics, statistics, convincing others)
	<p>K. Culminating Activity (finals week) (2 Hours)</p>

Rationale for Proposal

Why is this course being proposed?	In response to growing emphasis on natural gas procurement, development and transport in the US, a collaborative effort with the Geosciences and Geography and Regional Planning Departments has been established to offer a Shale Gas Interdisciplinary Certificate. This course and the proposed SAFE 204 course will be a part of that certificate program, in addition to being a free elective for students primarily in the Safety, Health and Environmental (SHE) Applied Sciences program.
How does it fit into the departmental curriculum? (Check all that apply)	<input type="checkbox"/> Major Requirement <input type="checkbox"/> Minor Requirement <input type="checkbox"/> Core Requirement <small>(Interdisciplinary core – e.g. Business Education)</small> <input type="checkbox"/> Required Elective <input type="checkbox"/> Liberal Studies <input checked="" type="checkbox"/> Open Elective <input checked="" type="checkbox"/> Other - Part of proposed interdisciplinary shale gas certificate program.
Is a similar class offered in other departments?	<input type="checkbox"/> Yes Please provide comment: Click here to enter text. <input checked="" type="checkbox"/> No
Does it serve the college/university above and beyond the role it serves in the department?	<input checked="" type="checkbox"/> Yes Please provide comment: Part of the proposed shale gas interdisciplinary certificate program which students from other IUP departments as well as outside the University may elect to take. <input type="checkbox"/> No

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<p>Who is the target audience for the course?</p>	<p><input type="checkbox"/> Course Designed for Majors (<input type="checkbox"/> Required <input type="checkbox"/> Not Required)</p> <p><input type="checkbox"/> Course Designed for Minor <input checked="" type="checkbox"/> Departmental Elective</p> <p><input type="checkbox"/> Restricted to Majors/Minors <input checked="" type="checkbox"/> Open to Any Student</p> <p><input type="checkbox"/> Liberal Studies</p> <p><input checked="" type="checkbox"/> Other - Part of the proposed shale gas multidiscipline certificate program</p>
<p>Implications for other departments</p>	<p>A. What are the implications for other departments (<i>For example, overlap of content with other disciplines, requirements for other programs</i>)? Students in other departments may elect to take this course as part of gaining a shale gas interdisciplinary certificate or as a matter of personal interest.</p> <p>B. How have you addressed this with other department(s) involved? What was the outcome of that attempt? (Attach documents as appropriate) This is a collaborative effort with Geosciences and Geography and Regional Planning Departments to offer an interdisciplinary certificate program in shale gas. Drafts of the course have been shared with each department via Department Chairs.</p>
<p>Are the resources adequate (i.e. faculty, space, equipment, laboratory supplies, library materials, travel funds, etc.)?</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p>Please provide comment: Faculty complement who have historically taught safety introductory courses (SAFE 100, SAFE 101) will be assigned to teach SAFE 104. SAFE 100 and SAFE 101 will be taught primarily by graduate assistants. In addition, this course could be taught in the summer and winter terms via distance education, and complement is already available during those terms to teach this course. It is anticipated that this course will be offered annually in either the fall or spring terms.</p>
<p>For Dean's Review</p>	
<ul style="list-style-type: none"> • Are resources available/sufficient for this course? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA • Is the proposal congruent with college mission? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA • Has the proposer attempted to resolve potential conflicts with other academic units? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA 	
<p>Comments:</p>	