

[Certificate] in [Shale Gas Energy]-NewDsg-2015-11-30

Form Information

The page you originally access is the global template version. To access the template document that progresses through the workflow, please complete the following steps:

First Step: ONLY change the text in the [brackets] so it looks like this: **Information Assurance Minor in Criminology-NewDsg-2015-08-10**

Second Step: Click "SAVE" on bottom right

- **DO NOT TYPE ANYTHING INTO THE FIRST PAGE OTHER THAN THE TEXT IN BRACKETS**

Third Step: Make sure the word **DRAFT** is in yellow at the top of the proposal

Fourth Step: Click on "**EDIT CONTENTS**" (not EDIT) and start completing the template. When exiting or when done, click "**SAVE**" on bottom right

When ready to submit click on the workflow icon and hit approve. It will then move to the chair as the next step in the workflow.

**Indicates a required field*

Proposer*	Steve Hovan	Proposer Email*	hovan@iup.edu
Contact Person*	Steve Hovan	Contact Email*	hovan@iup.edu
Proposing Department/Unit*	Geoscience	Contact Phone*	Steve Hovan

(A) Request Type:*	certificate
(B) Minor or Certificate Title:*	Shale Gas Energy
(C) List number of credits:*	18
(D) If Certificate or Letter, select level:	baccalaureate
(E) Course Level:*	undergraduate-level
(F) Narrative Catalog Description:*	Provides students with an interdisciplinary prospective of shale gas exploration and development. This 18-credit certificate program complements majors in related fields of geology, geography, safety sciences and energy management. The certificate is comprised of a two-course sequence in each of the primary fields related to shale gas studies (geology, geography and safety sciences) designed to prepare students with a broad understanding and successful employment in the energy industry.

(G) List of Program Requirements in catalog layout including course numbers, titles, credits and any footnotes.*

Note: PASSHE requires a minimum of 6 credits in a minor be advanced standing (300 and above)

Certificate in Shale Gas (18 credits)

Geoscience courses (6 credits):

GEOS 119 Geology of Energy (3 cr)¹

GEOS 409 Geology of Shale Gas Field Workshop (3 cr)

Geography and Regional Planning courses (6 credits):

GEOG 109 Geographic Information Science and Systems for Energy Applications (3 cr)¹

GEOG 409 Spatial Analysis Applications in the Energy Sectors Workshop (3 cr)

Safety Science courses (6 credits):

SAFE 104 Introduction to Safety in the Natural Gas Industry (3 cr)¹

SAFE 204 Principles of Safety in the Natural Gas Industry (3 cr)

(1) One 100-level introductory course may be substituted by an appropriate upper-division course with permission from department.

(H) Student Learning Outcomes*

Students will gain a deeper understanding of the interdisciplinary nature of the shale gas industry. In particular, students will:

1. Describe the history of exploration, development, and regulation of the natural gas industry
2. Explain how environmental and health-safety information can be used to determine risk during various stages of shale gas exploration, development and transport.
3. Evaluate, analyze and synthesize geological, environmental, economic and health/safety factors related to the development, production, and distribution of natural gas.
4. Synthesize geospatial and geopolitical data sets that influence energy policy.

Rationale for Proposal

(I) Why is this being proposed?*

IUP is situated near the geographic center of the shale gas industry in the Appalachian Basin. Development of this unconventional gas resource will continue for decades. With our traditional academic specialties of geographic information systems, geology, and safety sciences, IUP can provide a vitally important training ground for the future workforce needed to safely develop Pennsylvania's subsurface resources related to the Marcellus and Utica shale gas industry.

Based on discussions with professionals and alumni currently working in the shale gas industry, a broad understanding of the industry from the perspective of geological development, geospatial data analysis, safety and environmental regulation/compliance would be beneficial for employment in a number of sectors related to shale gas development.

(J) What role, if any, does it serve the

College/University above and

beyond the role it serves in the department?*

The Shale Gas Certificate will provide a multi-departmental, inter-disciplinary training program that will prepare students for employment in the regional/global shale gas industry. Not only will this broaden learning skills and experiences for students currently enrolled in several different programs from different colleges at IUP, but also will benefit students in several related fields (e.g. conservation biology, energy management, environmental sciences, etc.). As such, this certificate directly addresses several goals outlined in IUP's Strategic Plan: Goal #1 "Provide innovative academic programs of high quality and value" and Goal #2 "Prepare all of IUP's students for success in work and life, in addition to academic success". Furthermore, it will provide valuable training for industry professionals currently employed in the energy sector who are interested in a broader understanding of the shale gas industry to enhance their careers (Goal#4 "Strengthen IUP's value to our local, state, and global partners").

For Deans Review

Are Resources Available/Sufficient for this Course?

Is the Proposal Congruent with the College Mission?

Has the Proposer Attempted to Resolve Potential Conflicts with Other Academic Units?

Comments:

