15-41f
UWUCC: AP 9/1/15
Senate: Info 10/6/15

Template E

Distance Education Course Proposal Template

Steps in the approval process:

1. Complete the applicable template(s) and email them to the departmental or program curriculum committee chair. (If this is a new course that will include DE, complete Templates A and E. If adding DE to an existing course that is otherwise unchanged, complete Template E only. If revising a course and adding DE, complete Templates A and E.)
2. The curriculum chair emails the proposal to the curriculum committee, then to the department program faculty for a vote and finally to the department program chair.
3. The department program chair emails the proposal to curriculum-approval@iup.edu; this email will also serve as an electronic signature.
4. Curriculum committee staff will log the proposal, forward it to the appropriate dean's office(s) for review within 14 days and post it on the X Drive for review by all IUP faculty and administrators. Following the dean's review, the proposal goes to the UWUCC, UWGC and the Senate.
5. Questions? E-mail curriculum-approval@iup.edu

Contact Person:	John Benhart, Jr.	Email Address:	jbenhart@iup.edu
Proposing Depart/Unit:	Geography & Regional Planning	Phone:	7243572250

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Course Prefix/Number	GEOG 409
Course Title	Spatial Analysis Applications in the Energy Sectors Workshop
Adding DE to an Already Approved Course	☐ Yes – *Template E only required* ☒ No – *Template A and E, both required*
Type of Proposal	(*Check all that apply*) ☒ Online ☐ ITV
Brief Course Outline – if addi	*Review syllabus / Introduction to energy development, exploration and compliance* *Review of spatial approaches to energy exploration, compliance, logistics, analysis, and management* *Energy Spatial Applications Typology/ Unit/Lease Analyses; Landman Applications; Site Mapping/* *Base Mapping; Production Analyses; Geodatabase Structures and Data Management Issues*

Template E

ng DE to an appr ove d cour se	*Energy Spatial Applications Typology/ Unit/Lease Analyses; Landman Applications; Site Mapping* *Base Mapping; Production Analyses; Geodatabase Structures and Data Management Issues* *Spatial Application: Unit/Lease Analysis – Existing Lease Analysis; Geologic Analysis* *Spatial Application Implementation: Unit/Lease Analysis – Integrating Seismic and Production Data* *Spatial Application Implementation: Unit/Lease Analysis – Pipeline/Transmission Proximity and Logistics* *Spatial Application: Environmental Compliance – Permitting-based Analyses* *Spatial Application: Environmental Compliance – Permitting-based, Groundwater and Surface Water Analyses* *Spatial Application: Cultural Compliance – Site and Pipeline Cultural Resource Analyses* *Spatial Application: Landman Applications –Cadastral and Permit Investigation* *Spatial Applications: Landman Applications/Production Analysis – Capital lease investment and timeframe* *Spatial Applications: Production Analysis – Time series analysis, technique vs. production*
Rationale for Proposal (Required Questions from CBA)	
Ho w is/ar e the instr ucto r(s) qual ified in the Dist ance Edu cati on deli very	Instructor (John Benhart, Jr.) has three years of experience teaching distance education courses at IUP. Dr. Benhart has taught at IUP since 1994.

Template E

method as well as the discipline?	
For each outcome in the course, describe how the outcome will be achieved using Distance Education technologies.	1)Identify the types of spatial representation and analysis applications used by various entities within the energy industries (Students will read the text and other readings, study notes, and review websites. An online quiz will be administered to assess mastery of concepts.) 2) Explain the logic and criteria of energy spatial analysis applications (Students will read the text and other readings, study notes, and review websites. An online quiz will be administered to assess mastery of concepts.) 3) Apply energy-related spatial analysis applications using geographic information systems (GIS) software (Students will read the text and other readings, study notes, complete textbook-based exercises, and review websites. Software based labs will be assigned to encourage students to learn and master simple data-based analysis and cartographic visualization using GIS software. For example, students will be asked to access the PADEP Unconventional Gas Database, and produce a short report including a set of maps depicting aggregate gas production by well and mod, as well as report summary statistics by well, mod, and producer.) 4) Calculate quantitative answers to energy development, compliance, logistics, and production-related questions (Students will read the text and other readings, study notes, complete textbook-based exercises, and review websites. Software based labs will be assigned to encourage students to learn and master simple data-based analysis and cartographic visualization using GIS software. For example, students will be asked to access and attribute data from several different sources to determine a set of acceptable locations for an unconventional shale gas well pad.) 5) Assess results from energy-related spatial analysis applications to determine how they might be integrated into decision-making processes (Notes, readings, websites, online quizzes, software based labs and assignments. Software based labs will be assigned to encourage students to learn and master simple data-based analysis and cartographic visualization using GIS software. For example, students will be asked to access and utilize data from several different sources to identify and parcels that would be prioritized and recommended for lease acquisition for a gas production unit.) 6) Compare the applicability of various spatial analysis procedures to industry-standard reporting systems (Notes, readings, websites, online quizzes, software based labs and assignments. Software based labs will be assigned to encourage students to learn and master simple data-based analysis and cartographic visualization using GIS software and integration into white papers.) 7) Assess the utility of various spatial analysis procedures to governmental compliance and regulatory requirements for the energy industries (Notes, readings, websites, online quizzes, software based labs and assignments. Software based labs will be assigned to encourage students to learn and master simple data-based analysis and cartographic visualization using GIS software and integration into white papers.)
How will instructor-student and student-stud	D2L interface, email, phone

Template E

ent, if applicable, interaction take place?	
How will student achievement be evaluated?	Quiz and exam scores, evaluation of software based laboratories, assignments and white papers submitted through the Dropbox interface of learning management system
How will academic honesty for tests and assignments be addressed?	Most learning management systems address most of these issues. Randomized timed quizzes and exams, thorough instructor review of submitted laboratories and assignments, and white papers