

LSC Use Only Proposal No:  
LSC Action-Date:

UWUCC Use Only Proposal No: **14-716**  
UWUCC Action-Date: **App-11/11/14** Senate Action Date: **App-12/2/14**

Curriculum Proposal Cover Sheet - University-Wide Undergraduate Curriculum Committee

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Proposing Department/Unit <b>Management</b>	Phone <b>357-5760</b>

Check all appropriate lines and complete all information. Use a separate cover sheet for each course proposal and/or program proposal.

**1. Course Proposals (check all that apply)**

New Course     
  Course Prefix Change     
  Course Deletion  
 Course Revision     
  Course Number and/or Title Change     
  Catalog Description Change

Current course prefix, number and full title: \_\_\_\_\_

Proposed course prefix, number and full title, if changing: **MGMT 440/540 Introduction to Energy Management**

**2. Liberal Studies Course Designations, as appropriate**  
This course is also proposed as a Liberal Studies Course (please mark the appropriate categories below)

Learning Skills   
  Knowledge Area   
  Global and Multicultural Awareness   
  Writing Across the Curriculum (W Course)  
 Liberal Studies Elective (please mark the designation(s) that applies – must meet at least one)

Global Citizenship     
  Information Literacy     
  Oral Communication  
 Quantitative Reasoning     
  Scientific Literacy     
  Technological Literacy

**3. Other Designations, as appropriate**

Honors College Course     
  Other: (e.g. Women's Studies, Pan African)

**4. Program Proposals**

Catalog Description Change     
  Program Revision     
  Program Title Change     
  New Track  
 New Degree Program     
  New Minor Program     
  Liberal Studies Requirement Changes     
  Other

Current program name: \_\_\_\_\_

Proposed program name, if changing: \_\_\_\_\_

5. Approvals	Signature	Date
Department Curriculum Committee Chair(s)	<i>Jody White</i>	9-15-14
Department Chairperson(s)	<i>Sam Sp...</i>	9/15/2014
College Curriculum Committee Chair	<i>[Signature]</i>	9/16/2014
College Dean	<i>[Signature]</i>	9/16/14
Director of Liberal Studies (as needed)		
Director of Honors College (as needed)		
Provost (as needed)		
Additional signature (with title) as appropriate		
UWUCC Co-Chairs	<i>Gail Schust</i>	11/11/14

Received NOV 10 2014  
 Received OCT 3 2014  
 Received SEP 18 2014  
 Liberal Studies Liberal Studies Liberal Studies

## Syllabus of Record

### MGMT 440/540 Introduction to Energy Management

3 lecture hours 0 lab hours, 3 credits

**Undergraduate Prerequisite:** Junior Standing

**Graduate Prerequisite:** Acceptance in the MBA program

#### I. Catalog Description

**Introduction to the global energy markets and business with a particular emphasis on hydrocarbon based resources including petroleum, natural gas and coal resources. Also includes exposure to nuclear, hydroelectric, solar, wind and other “alternative” energy technologies.**

#### II. Course Outcomes:

At the end of the course, students will be able to:

1. Establish a perspective in the history and evolution of the energy industry, both domestically and globally.
2. Develop a working vocabulary and comprehension of industry related terminology and concepts.
3. Achieve a comprehension and integration of the interrelationships of various energy industry related stages such as exploration, production, transportation, processing, markets, pricing, supply/demand, etc.
4. Demonstrate a proficiency in the area of (relative) energy economic evaluation analysis.
5. Compare and contrast the evolving technologies related to energy development and utilization.
6. Formulate an analytical framework of the environmental and geopolitical issues related to the production, transportation, processing, consumption and disposal of energy (in the U.S. and globally).
7. Summarize the energy industry as it pertains to individual consumers, businesses, industries, the U.S., other countries and globally.

MBA (graduate) students in this course will be expected to:

1. Exceed the level of proficiency of the above seven outcomes (please see grading scale differential for MBA vs. undergraduate students).
2. Through the higher percentage of weighting for class participation: MBA students should expect to evaluate, articulate, argue and defend their proficiency at a higher level (quantity *and* quality) in such areas as:
  - a. Analyzing, comparing and contrasting the environmental, ethical and geopolitical issues related to and impacted by the energy industry.

- b. Synthesize and integrate energy supply & demand, economics, technology, sustainability, geopolitical issues and other aspects of the global energy industry
3. Through the addition of the component for the creation of a **term paper** and **class presentation**: MBA students will be expected to **evaluate, articulate, argue and defend** their mastery of the course content at a higher level

### III. Course Outline

1. A Brief History and Status of the Global Energy Industry (3 hours)
2. Careers in the Energy Industry (3 hours) – Guest Speaker
  - Technical
  - Support Staff
  - Managerial
  - Consulting
3. Energy Sources: Technology (Exploration, Production, Transportation, Transmission, Production Costs, BTU Equivalents) (6 hours) – Guest Speaker
  - Coal
    - Petroleum (including shale oil)
    - Natural Gas
    - Nuclear
    - Hydroelectric
    - Alternatives (*solar, wind, ethanol, geothermal, tidal, etc.*)
4. Major “Players” (3 hours)
  - National Oil companies
  - OPEC
  - International Integrated Oil Companies
  - Research & Development
  - Exploration
  - Producers
  - Transportation
  - Refiners/Processors
  - Storage
  - Traders
  - Brokers
  - Equipment and Machinery Manufacturers
5. World Energy Balance (2 hours) – Guest Speaker
  - Growth
  - Supply/Demand by Sector, by Country, by Energy Source
  - Emerging Economies – China & India)

6. Energy Markets (3 hours)
  - Historical Pricing
  - Physical Markets & Futures Markets
7. Midterm Exam (1 Hour)
8. Energy Economics (Absolute, Relative) (6 hours)
9. Relationships of Global Economic Activity and Energy Demand (3 hours)
10. Environmental Issues (3 hours)
  - Conservation
  - Sustainability
  - Renewability
  - Waste Disposal
11. Geopolitical Issues (3 hours)
  - Local/State – Guest Speaker
  - Federal (Including key regulatory agencies such as the EPA, OSHA, DOE, etc.)
  - International
12. U.S. Energy Policy (3 hours)
13. Future Trends in Energy (3 hours)
  - Technology (Sources, R&D, Uses)
  - Regulatory (History, Present and future)
  - Geopolitical
  - Environmental
14. Final Exams – Finals Week – 2 hours

#### **IV. Evaluation Methods**

##### **For Undergraduate Students:**

Exam #1	25%
Exam #2	25%
Term Paper	25%
Assignments	15%
Participation	10%

*(continued)*

**For Graduate Students:**

Exam #1	20%
Exam #2	20%
Term Paper/Present	30%
Assignments	15%
Participation	15%

**V. Grading scale Undergraduate:**

Final Grade:	A.....	90% or greater
	B.....	80-89%
	C.....	70-79%
	D.....	60-69%
	F.....	<60%

**Grading scale Graduate:**

There is no “D” grade at the graduate level

Final Grade:	A.....	93% or greater
	B.....	83-92%
	C.....	75-82%
	F.....	<75%

**VI. Attendance Policy:** The Attendance policy complies with the Indiana University of Pennsylvania guidelines.

**VII. Required Textbook:** Course Packet – *Introduction to Energy Management: Selected Readings & Case Studies* (Will be made available at local copy center)

**VIII. Special Resource Requirements**

Classroom must be equipped with Internet access and display capabilities for the teacher. Students must have access to high speed Internet for outside of class hours.

**IX. Bibliography**

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## Introduction to Energy Management: Course Analysis Questionnaire

### Section A: Details of the Course

- A1 How does this course fit into the programs of the department? For what students is the course designed? (majors, students in other majors, liberal studies). Explain why this content cannot be incorporated into an existing course.
- *Supports proposed Tracks in Energy Management and MBA Concentration in Energy Management. Also very appropriate as a Management Major Elective, ECOBIT Elective, MBA Elective (although course is a survey/foundation course for the Tracks and the MBA Concentration, the course is designed to stand alone as an elective).*
  - **Cannot be integrated into another course because there is no similar course and the content of such a course is specialized and focused on an industry**
- A2 Does this course require changes in the content of existing courses or requirements for a program? If catalog descriptions of other courses or department programs must be changed as a result of the adoption of this course, please submit as separate proposals all other changes in courses and/or program requirements.
- **No**
- A3 Has this course ever been offered at IUP on a trial basis (e.g. as a special topic) If so, explain the details of the offering (semester/year and number of students).
- **No**
- A4 Is this course to be a dual-level course? If so, please note that the graduate approval occurs after the undergraduate.
- **Yes**
- A5 If this course may be taken for variable credit, what criteria will be used to relate the credits to the learning experience of each student? Who will make this determination and by what procedures?
- **N/A**
- A6 Do other higher education institutions currently offer this course? If so, please list examples (institution, course title).

- **University of Colorado, Denver**

#### **GEMM 6000 – 21st Century Global Energy Issues and Realities**

Course provides an introduction to the global energy industry's—past, present, and future. History and current issues faced in regions such as the Atlantic Basin; former Soviet Union; East of Suez; and North and South America will be covered. World production centers and markets are discussed as well as relevant energy security, scenario planning and risk management. Regulation, deregulation and environmental concerns in these regions are also introduced. In addition, students will learn the geographic distribution of energy resources worldwide along with the political and governmental systems associated with those resources.

- **University of Tulsa**

#### **EMGT 2013: Practical Issues in Energy Management**

This course gives students, who are considering a career in the energy industry, a keen understanding and appreciation of the history and dynamics of this dynamic, volatile and global commodity. This is accomplished through industry guest lecturers, reading required texts and going on a mandatory field trip.

- **Northern Illinois: TECH 484 Energy Management**



A7 Is the content, or are the skills, of the proposed course recommended or required by a professional society, accrediting authority, law or other external agency? If so, please provide documentation.

- **No**

### **Section B: Interdisciplinary Implications**

B1 Will this course be taught by instructors from more than one department? If so, explain the teaching plan, its rationale, and how the team will adhere to the syllabus of record.

- **No**

B2 What is the relationship between the content of this course and the content of courses offered by other departments? Summarize your discussions (with other departments) concerning the proposed changes and indicate how any conflicts have been resolved. Please attach relevant memoranda from these departments that clarify their attitudes toward the proposed change(s).

- ***Other Departments in the ECOBIT are developing complementary courses (Legal Studies, Accounting, Finance – they are included in the proposal)***
- ***There are other courses outside of ECOBIT that are also included in the program proposal – included in the Program Proposal)***

B3 Will this course be cross-listed with other departments? If so, please summarize the department representatives' discussions concerning the course and indicate how consistency will be maintained across departments.

- **No**

### Section C: Implementation

- C1 Are faculty resources adequate? If you are not requesting or have not been authorized to hire additional faculty, demonstrate how this course will fit into the schedule(s) of current faculty. What will be taught less frequently or in fewer sections to make this possible? Please specify how preparation and equated workload will be assigned for this course.
- ***The department has a faculty with extensive experience in the energy industry to teach the course.***
- C2 What other resources will be needed to teach this course and how adequate are the current resources? If not adequate, what plans exist for achieving adequacy? Reply in terms of the following:
- \*Space – ***Available in Eberly***
  - \*Equipment ***N/A***
  - \*Laboratory Supplies and other Consumable Goods ***N/A***
  - \*Library Materials ***N/A***
  - \*Travel Funds ***N/A***
- C3 Are any of the resources for this course funded by a grant? If so, what provisions have been made to continue support for this course once the grant has expired? (Attach letters of support from Dean, Provost, etc.)
- ***No***
- C4 How frequently do you expect this course to be offered? Is this course particularly designed for or restricted to certain seasonal semesters?
- ***Once every 1-2 years***
- C5 How many sections of this course do you anticipate offering in any single semester?
- ***One***
- C6 How many students do you plan to accommodate in a section of this course? What is the justification for this planned number of students?
- ***Up to 30-35 (Typical of this type of Management course)***
- C7 Does any professional society recommend enrollment limits or parameters for a course of this nature? If they do, please quote from the appropriate documents.
- ***No***
- C8 If this course is a distance education course, see the Implementation of Distance Education Agreement and the Undergraduate Distance Education Review Form in Appendix D and respond to the questions listed.
- ***No***

### Section D: Miscellaneous

Include any additional information valuable to those reviewing this new course proposal.