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| **C:\Users\ashkanani\AppData\Local\Microsoft\Windows\INetCache\Content.Word\AACSB-logo-accredited-vert-color-RGB.JPG** | **Kuwait University****College of Business Administration****Information Systems & Operations Management Department** |  |

**Course Syllabus**

Dr. Raed Al-Husain

ISOM 493 – Special Topics: Operations and Supply Chain in the Energy Sector

**Sections:**  01A- 51T

**Email**: raed.husain@ku.edu.kw

**Office:** 2nd Floor, ISOM Department, S-02-0B-1019

**Office Hours:** 1 – 2 PM Monday and Wednesday

**Textbooks**

Optimal Supply Chain Management in Oil, Gas and Power Generation. David Jacoby, 2012. PennWell Corp. ISBN-10-1593702922.

**Suggested readings:**

* Improving Supply Chains in the Oil and Gas Industry: 12 Modules to Improve Chronic Challenges for Maintenance, Repair and Operations (Springer Series in Supply Chain Management, 16) 1st ed. 2022 Edition

by Sanchay Roy (Author), Stewart Dunbar (Author). ISBN-10-3030950654.

**Course Website** [Moodle](https://moodle.ku.edu.kw/) + Microsoft Teams

**Course Description:**

This course provides an in-depth examination of the energy and petroleum Operations and supply chain, from the upstream exploration and production of crude oil and natural gas to the downstream refining, transportation, storage, and distribution of petroleum products. Students will learn about the various stages of the supply chain, including the challenges and opportunities facing the industry, such as environmental sustainability and geopolitical factors. The course will cover supply chain management principles and practices, including logistics, procurement, and operations management. Students will develop analytical and problem-solving skills, as well as the ability to evaluate the impact of supply chain decisions on business performance. The course will use case studies and real-world examples to illustrate key concepts and practices. Guest speakers from industry organizations will provide insights into current trends and practices in both the upstream and downstream sectors. The course is designed for students interested in pursuing careers in the energy and petroleum industry or related fields.

**COURSE LEARNING OBJECTIVES (CLOS):**

The following learning objectives summarize the primary skills and knowledge students will gain from the course. Based on the course description, the objectives cover a range of skills, from analytical and problem-solving skills to communication and business ethics.

Upon completion of this course, students will be able to:

CLO1. Understand the key concepts and principles of energy and petroleum supply chain management.

CLO2. Analyze the challenges and opportunities in the energy and petroleum supply chain using analytical tools and techniques.

CLO3. Evaluate the impact of technology and innovation on the energy and petroleum supply chain.

CLO4. Apply supply chain management principles and practices, including logistics, procurement, and operations management, to solve problems in the energy and petroleum supply chain.

CLO5. Develop analytical and problem-solving skills, as well as the ability to evaluate the impact of supply chain decisions on business performance.

CLO6. Communicate effectively and ethically in written and oral formats, using appropriate information technology tools and resources.

CLO7. Gain a broad understanding of the general business knowledge required to succeed in the energy and petroleum industry, including global energy markets and trends, environmental sustainability, and geopolitical factors.

**CLO MAPPING TO CBA SKILL-BASED COMPETENCY GOALS[[1]](#footnote-1)**

In this table, the letter “i” stands for “introducing” a skill, and the letter “r” stands for “reinforcing” a skill. The table shows how each course learning outcome relates to each of the five learning skills. This format can help you ensure that the course is well-rounded and covers a variety of skills and competencies.

|  |  |
| --- | --- |
| CLO | Competency Goal |
| Analytical | Communication | Information Technology | Business Ethics | General Business Knowledge |
| 1 | i | i | i | i | r |
| 2 | r |  | r |  |  |
| 3 |  |  | r |  |  |
| 4 | r |  | r |  |  |
| 5 | r |  | r |  | r |
| 6 |  | r |  | r |  |
| 7 |  |  |  |  | r |

**COURSE OUTLINE**

|  |  |  |
| --- | --- | --- |
| Week | Topic | Task |
| 1 | **Unit 1: Overview of the Energy and Petroleum Industry** | Assignment 1 |
| 2 | **Unit 2: Review of Supply Chain Management:**1. Definitions of SCM
2. Key concepts and principles
 | Assignment 2 |
| 3 | **Unit 2: Review of Supply Chain Management:**1. Importance of SCM in the energy and petroleum industry
2. Metrics and performance indicators
 | Project topic selection and team formation |
| 4 | **Unit 3: Overview of the Energy and Petroleum Supply Chain:** 1. Upstream sector
 | Project research question and proposal submission/ Assignment 3.1 |
| 5 | **Unit 3: Overview of the Energy and Petroleum Supply Chain:** 1. Midstream sector
 | Project literature review and data collection/Assignment 3.2 |
| 6 | **Unit 3: Overview of the Energy and Petroleum Supply Chain:** 1. Downstream sector
 | Assignment 3.3 |
| 7 | **Midterm Exam: Monday 1/4/2024** | Project data analysis and report writing |
| 8 | **Unit 4: Challenges and Opportunities in the Energy and Petroleum Supply Chain:**1. Environmental sustainability and climate change
2. Geopolitical factors and energy security
3. Technological innovation and disruption
 | Project data analysis and report writing/Assignment 4 |
| 8 | **Unit 5: Role of Supply Chain Management in the Energy and Petroleum Industry:**1. SCM principles and practices in the industry
2. Benefits of effective SCM: cost optimization, efficiency, and resilience
 | Assignment 5 |
| 9 | **Unit 5: Role of Supply Chain Management in the Energy and Petroleum Industry:**1. Impact of SC decisions on business performance
2. Case studies showcasing successful SCM practices
 |  |
| 10 | **Unit 6: Future Trends and Directions in the Energy and Petroleum SC:**1. Emerging technology and innovations
2. Alternative energy sources and sustainability initiatives
 | Assignment 6 |
| 11 | **Unit 6: Future Trends and Directions in the Energy and Petroleum SC:**1. Global energy demand and Consumption
 |  |
| 12 | **Guest Speaker from the Industry** |  |
| 13 | **Presentation Week** | Project presentation preparation and delivery |

**GRADING AND COURSE REQUIREMENTS**

* All dates (EXCEPT for the final) may change due to class circumstances and holidays. Therefore, always check online for the latest version of the syllabus and course calendar.

|  |  |  |
| --- | --- | --- |
| **Weight** | **Category** | **Description** |
| **20%** | **Class Participation and Assignments** | [Class instructor decides on the details of this portion] |
| **20%** | **Midterm**  | Date/Time: [Day] [Date] from [Start Time] to [End Time] |
| **20%** | **Class Project** | The project description is provided below, and the instructor will provide the due date |
| **40%** | **Final Exam** | Sunday 19/5/2024 [11:00 am] to [1:00 pm] |
| **100%** |  |  |

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| **Grade Distribution**

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| --- | --- |
| **Grade** | **Range** |
| A | ≥ 95 |
| A- | ≥ 90 and < 95 |
| B+ | ≥ 87 and < 90 |
| B | ≥ 83 and < 87 |
| B- | ≥ 80 and < 83 |
| C+ | ≥ 77 and < 80 |
| C | ≥ 73 and < 77 |
| C- | ≥ 70 and < 73 |
| D+ | ≥ 65 and < 70 |
| D | ≥ 60 and < 65 |
| F | < 60 |

 | **Important Dates**

|  |  |
| --- | --- |
| **Date** | **Event** |
| Monday 1/4/2024 | Midterm  |
| Monday 13/5/2024 | Last Day of Classes |
| Sunday 19/5/2024 | Final Exam |

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**CLASS PARTICIPATION AND ASSIGNMENT**

Class participation is a crucial component of this course and is worth 20% of the total grade. This includes active participation in class discussions and activities, as well as timely completion of assignments. In order to fully engage with the course material and succeed in this class, it is important that students attend all classes, come prepared with questions and comments, and actively contribute to class discussions. There will also be regular assignments throughout the semester to reinforce students’ understanding of the material and help them develop the necessary skills to succeed in the energy and petroleum industry. Students’ performance in these assignments will also count towards their participation grade.

**MIDTERM**

A midterm exam will be administered during the semester, accounting for 20% of the overall grade. The exam will encompass materials covered in lectures, assigned readings, and class discussions. This assessment aims to gauge students' comprehension of the course content and their aptitude for applying the learned concepts and principles to real-world situations. The dates for the midterm will be announced in advance, and students are expected to arrive on time and be prepared to take the exam. Please note that makeup exams will only be given in exceptional circumstances and with prior approval from the instructor. Therefore, it is important to keep up with the course material and to study regularly to perform well on the midterm.

**CLASS PROJECT**

For the class project, you will work in teams to complete a project that will be worth 20% of your total grade. The project will be focused on one of the major oil industry companies operating in Kuwait, whether International Oil Companies (IOCs), National Oil Companies (NOCs), or service companies. Your team will be responsible for selecting a company, developing a research question, conducting research, and presenting your findings in a written report and an oral presentation. The project will specifically focus on the operations and supply chain management topics within these companies, including challenges, opportunities, and future trends. I encourage you to start forming your teams early and to communicate regularly throughout the project to ensure everyone is on track. Please refer to the detailed project guidelines, including the project timeline, deliverables, and grading criteria. It is important to note that teamwork and collaboration are essential components of this project, and I encourage you to take advantage of the opportunity to work closely with your team members. This project will allow you to apply the concepts and skills you have learned in this class to a real-world scenario, and I am excited to see the results of your hard work.

* **Project Guidelines**

**Project Timeline:**

Topic selection and team formation: Week 3

Research question and proposal submission: Week 4

Literature review and data collection: Weeks 5-6

Data analysis and report writing: Weeks 7-8

Presentation preparation and delivery: Week 13

**Deliverables:**

Research proposal: 5% of project grade (due Week 4)

Written report: 10% of project grade (due Week 12)

Oral presentation: 5% of project grade (delivered in Week 13)

**Grading Criteria:**

Topic relevance and research question formulation: 20%

Literature review and data collection: 20%

Data analysis and results interpretation: 30%

Written report quality and organization: 15%

Oral presentation quality and delivery: 15%

* **Important Notice: APA Citation Guidelines for Assignments and Projects**

As you prepare to complete your assignments and projects, please keep in mind that all citations and references must follow the American Psychological Association (APA) criteria. The APA style is a commonly used standard for citing sources in academic writing, and following these guidelines is critical to ensuring the correctness and integrity of your work.

A link to the official APA website has been provided below to assist you in following the APA style, where you can find comprehensive guidance on referencing various sources, including books, journal articles, and internet resources. I encourage you to become acquainted with these principles and to follow them regularly throughout your training.

APA Website: <https://apastyle.apa.org/>

**FINAL EXAM**

The final exam will be worth 40% of the total grade and will cover the material discussed in class after the second midterm. This exam is designed to assess students’ understanding of the course material and their ability to apply it to real-world situations. The exam format will be announced in advance, and students are expected to arrive on time and prepared to take the exam. Please note that no makeup exams will be given except in cases of documented emergencies or extenuating circumstances. Therefore, it is important to keep up with the course material and review regularly to be well-prepared for the final exam.

**Identification**: You must bring and display a valid Kuwait University student ID to the examination.

**Late Arrival**: If you arrive late for an examination, you will be given the remaining time to complete your examination. However, after the first student hands in her/his test, late students cannot start the examination. These late students will receive a FA grade in the course.

**Questions during the examination**: You are not allowed to ask questions about the exam content during the examination unless you feel that there is a typographical error. Reading and understanding what the question is asking is part of the exam. If you need to make any assumptions, then make sure to write those assumptions in your response clearly.

**Other:** Working on your examination after time has expired is not allowed – this includes filling in answers on the answer sheet.

**ATTENDANCE**

**Attendance in this class is required**. While no specific grade is given for attendance, absences and late attendance will negatively affect students’ in-class experience. It is a student’s responsibility to seek out help from classmates to fill in on his/her missed materials. For online sessions, students are expected to attend the live meetings we will have on MS Teams. Failing to do so will lead to counting them as absent for a given class session.

In addition to my classroom policies, students are also expected to abide by the policies of the University. Every student in this course must abide by the Kuwait University Policy on Attendance (published in the student bylaws). A copy of the student bylaws can be accessed online on:

<http://vpaa.ku.edu.kw/ar/documents/KU%20ByLaws/Students/Curriculum_Regulations.pdf>

**ACADEMIC INTEGRITY**

The University’s code of academic integrity is designed to ensure that the principles of academic honesty and integrity are upheld. All students are expected to adhere to this code. All acts of academic dishonesty will be dealt with in accordance with the provisions of this code. In addition, every student in this course must abide by the Kuwait University Policy on Cheating and Plagiarism (published in the student bylaws). A copy of the student bylaws can be accessed online on:

<http://vpaa.ku.edu.kw/ar/documents/KU%20ByLaws/Students/Curriculum_Regulations.pdf>

In particular,

* Students should neither give nor receive assistance from anyone in taking the quizzes, assignments, and final exam.
* Students should immediately report to me any act of academic dishonesty they may observe. Students’ anonymity will be protected.

Cheating includes (but not limited to):

* Using unauthorized notes during the examination.
* Using unauthorized devices during the examination
* Communicating with anyone besides the instructor or exam proctor.
* Looking at another student’s work during the examination.
* Copying another student’s work.
* Having someone else take the exam on your behalf.

**OTHER COURSE POLICIES**

Your fellow students and I need 100% of your attention and mind share while the class is in session. Toward this end:

* For each class, please arrive sufficiently ahead of the official start time to collect any handouts or prior quizzes that have been graded and get yourself ready with your notes and papers.
* Please do not walk around or out of the classroom while class is in session.
* All electronic gadgets must be turned off (not turned to vibrate, but actually turned off!) while class is in session. So for the purpose of this bullet, if your gadget has an on/off switch, it is an electronic gadget.

**Note:** Please DON’T send anyone (a family member or any other person) to talk to me about raising your grade. Any student who violates this rule will not receive class bonuses (if any).

**Special Needs:** If you have a disability and/or special needs, you should bring this to my attention as soon as possible, but not later than the second week of class.

**CBA COMPETENCY GOALS**

1. **Analytical Competency:** A CBA graduate will be able to use analytical skills to solve business problems and make well-supported business decisions.

**Student Learning Objectives:**

* 1. Use appropriate analytical techniques to solve a given business problem.
	2. Critically evaluate multiple solutions to a business problem.
	3. Make well-supported business decisions.
1. **Communication Competency:** A CBA graduate will be able to communicate effectively in a wide variety of business settings.

**Student Learning Objectives:**

* 1. Deliver clear, concise, and audience-centered presentations.
	2. Write clear, concise, and audience-centered business documents.
1. **Information Technology Competency:** A CBA graduate will be able to utilize Information Technology for the completion of business tasks.

**Student Learning Objectives:**

* 1. Use data-processing tools to analyze or solve business problems.
1. **Ethical Competency:** A CBA graduate will be able to recognize ethical issues present in the business environment, analyze the tradeoffs between different ethical perspectives, and make a well-supported ethical decision.

**Student Learning Objectives:**

* 1. Identify the ethical dimensions of a business decision.
	2. Recognize and analyze the tradeoffs created by the application of competing ethical perspectives.
	3. Formulate and defend a well-supported recommendation for the resolution of an ethical issue.
1. **General Business Knowledge:** A CBA graduate will be able to demonstrate a basic understanding of the main business disciplines’ concepts and theories.

**Student Learning Objectives:**

* 1. Acquire a fundamental understanding of knowledge from the main business disciplines (e.g., finance, accounting, marketing, and management information systems, among others).
1. CBA Competency Goals can be found at the end of this document [↑](#footnote-ref-1)