NEW EXPERIMENTAL COURSE PROPOSAL FORM

College: [Engineering and Computer Science] **Department: [Manufacturing and Systems Engineering Management (MSEM)]**

1. **Course Information for Schedule of Classes**
   Subject Abbreviation and Number: **[MSE 695SUS]**
   Course Title: **[Sustainability in the Global Supply Chain]**
   Units: **[3]** units
   Course Prerequisites: **[None]** *(if any)*
   Course Corequisites: **[ ]** *(if any)*
   Recommended Preparatory Courses: **[No required prep courses but Consent of instructor if no prior exposure to supply chain management]** *(if any)*

2. **Course Description for Schedule of Classes:** *Notes:* If grading is NC/CR only, please state in course description. If a course numbered less than 500 is available for graduate credit, please state "Available for graduate credit in the catalog description."
   [Exploration of concepts to think innovatively about achieving sustainability in the global supply chain of organizations by introducing the three aspects of sustainability, namely, economic, environmental and social. The course also includes identification and understanding of best practices and development of sutainability models. **]**

3. **Date of Proposed Implementation: (Semester/Year): [Fall] / [2013]** *Comments*

4. **Course Level**

[☐]Undergraduate Only	[☒]Graduate Only	[☐]Graduate/Undergraduate

5. **Course Abbreviation "Short title" (maximum of 17 characters and spaces)**
   Short Title: **[S•U•S•T• •G•L•B•L• •S•U•P• •C•H•N]**

6. **Basis of Grading:**
   [☐]Credit/No Credit Only **[☒]Letter Grade Only** **[☐]CR/NC or Letter Grade**

7. **Number of times a course may be taken:**
   [☒] May be taken for credit for a total of **[**1**]** times, or for a maximum of **[**3**]** units
   [☐] Multiple enrollments are allowed within a semester

8. **C-Classification:** *(e.g., Lecture-discussion (C-4).)*
   [3] units @ **[C-5] [ ]**

9. **Proposed Course Uses:** (*Check all that apply*)
   [☒] Own Program: **[☒]**Major **[☐]**Minor **[☒]**Masters **[☐]**Credential **[☐]**Other

[☐] Requirement or Elective in another Program
[☐] General Elective
[☐] Community Service Learning (CS)
[☐] Cross-listed with: *(List courses)* [ ]

10. Justification for Request: *Course use in program, level, use in General Education, Credential, or other. Include information on overlap/duplication of courses within and outside of department or program. (Attach)*

11. Estimate of Impact on Resources within the Department, for other Departments and the University. *(Attach)*

(See Resource List)

12. Course Outline and Syllabus *(Attach)* Include methods of evaluation, suggested texts, and selected bibliography. Describe the difference in expectations of graduates and undergraduates for all 400 level courses that are offered to both.

13. Indicate which of the Program's Measurable Student Learning Outcomes are addressed in this course. *(Attach)*

14. Methods of Assessment for Measurable Student Learning Outcomes *(Attach)*

A. Assessment tools
B. Describe the procedure dept/program will use to ensure the faculty teaching the course will be involved in the assessment process (refer to the university's policy on assessment.)

(For numbers 14 and 15, see Course Alignment Matrix and the Course Objectives Chart

15. Record of Consultation: *(Normally all consultation should be with a department chair or program coordinator.) If more space is needed attach statement and supporting memoranda.*

Date:		Dept/College:		Department Chair/ Program Coordinator		Concur (Y/N)
[ ]		[MSEM/CECS]		[Dr. Ileana Costea]		[Y]
[ ]		[CEAM/CECS]		[Dr. Nazaret Dermendjian]		[Y]
[ ]		[ME/CECS]		[Dr. Hamid Johari]		[Y]
[ ]		[CS/CECS]		[Dr. Steven Stepanek]		[Y]
[ ]		[ECE/CECS]		[Dr. Ali Amini]		[Y]
[ ]		[OVIATT LIBRARY]		[Mary Woodley]		[Y]

Consultation with the Oviatt Library is **recommended** for experimental courses to ensure the availability of appropriate resources to support proposed course curriculum.

Collection Development Coordinator, Mary Woodley **Date**

Please send an email to: collection.development@csun.edu [ ]

16. Approvals:

Department Chair/Program Coordinator:	Date: [ ]
College (Dean or Associate Dean):	Date: [ ]
Educational Policies Committee:	Date: [ ]
Graduate Studies Committee:	Date: [ ]
Provost:	Date: [ ]

Attachments for the experimental course are listed below:

10. Justification for course titled "Sustainability in The Global Supply Chain":

Sustainability is considered to be the greatest of challenges to businesses and governments in the 21st century. With a growing population and dwindling resources, now is the time to start working on implementing sustainability, so as to provide future generations with the same standard of living that we are accustomed to. One of the largest consumers of natural resources are the supply chains of large corporations. In fact, approximately 90% of a large organization's carbon and water footprint is from their supply chain. This course will teach engineers and engineering managers to implement sustainability in the global supply chain and thus truly make them able to contribute value to the 21st century work force. Furthermore, in this course, we also discuss the social aspects of sustainability in the global supply chain, which have so far not dominated sustainability discussions, but are getting increasing attention.

11. Estimate of impact of resources within the department, other departments or the university

There are no additional resources required for this course.

12. Course Outline and Syllabus for experimental course (MSE695SUS)

MSE 695SUS – Sustainability of The Global Supply Chain

Week	Date	Topic Covered	Articles to review for discussion in class – See listing for #s
1		Introduction to Sustainability Importance of Sustainability in Operations & Supply Chain Management	Reading materials will be posted on Moodle
2		Understanding The Global Supply Chain	Reading materials will be posted on Moodle
3		Building an operations strategy for sustainability	1, 2, 3 & 4
4		Sustainability at Walmart	5, 6 & 7
5		Carbon Disclosure Project Supply Chain & Discussion on "e-waste"	Reading materials will be posted on Moodle
6		Strategic Environmental Management Cases	8, 9 & 10
7		Social Sustainability	11 & 12
8		Sustainable Service, Product and Process Design	13 & 14
9		Sustainable Service, Product and Process Design (continued)	15 & 16

10		**GUEST SPEAKER 1 (Consultant in the field of sustainability)**	
11		**Mid-Term Exam**	
12		Managing a Sustainable Supply Chain	17 & 18
13		A further look at CSR and Social Sustainability	19, 20 & 21
14		Bringing Sustainability to the Customer	22 & 23
15		**GUEST SPEAKER 2 (Consultant in the field of sustainability)**	
16		PREP TIME FOR FINAL	
17		**FINAL PRESENTATIONS (With Written Report)**	

Instructor Information:

S. Jimmy Gandhi, PhD
Assistant Professor,
Manufacturing Systems & Engineering Management Dept, (MSEM),
California State University, Northridge,
18111 Nordhoff Street,
Northridge, CA 91330
Email: sj.gandhi@csun.edu
Tel: 818-677-6157

Required Textbook for the class:

Since this course is primarily case study based, the required text for this class will be a customized book from University Readers which will be comprised of all the case studies that we will be discussing during the semester. The instructor will provide you detailed instructions on how to order the book via email. Paper and electronic copies of case studies that require a royalty will be available for purchase from University Readers. .
Any additional material (including journal articles, reports and PPT presentations) used for the class, will be posted on Moodle.

Final Grade Tally Breakdown:

Class Contribution	25%
Homework: (*2* papers @ 10% each)	20%
Mid-Term Exam:	20%
Final Project	35%

(For the Final Project, 15% for in class presentation & 20% for final analysis report submitted)

Listing of case studies and journal articles (The numbering of the cases and articles here corresponds to the ones listed in the syllabus on Pg 1)

1. Case Discussion: "**Sustainability and Competitive Advantage**" by M. Berns et al., *Sloan Management Review,* Fall 2009, 51(1), pp. 19-26. *"Forget how business is affecting sustainability ... how is sustainability affecting business? The first annual Business of Sustainability Survey and interview project has answers."*
2. "UNDERSTANDING THE RELATIONSHIPS BETWEEN INTERNAL RESOURCES AND CAPABILITIES, SUSTAINABLE SUPPLY MANAGEMENT AND ORGANIZATIONAL SUSTAINABILITY" Author: Antony Paulraj; Journal of Supply Chain Management, Vol 47, Issue 1.
3. Don't tweak your supply chain – Re-think it end to end; Harvard Business Review articles, Author: Hau Lee; Date of Publication: October 1, 2010.
4. Sustainability as Fabric – And why smart managers will capitalize first, by Hopkins, Micheal; Locke, Richard; MIT Sloan Management Review.
5. "**Wal-Mart's Sustainability Strategy**," by L. Denand and E. Plambeck, Stanford Case OIT-71, 30-Sept-2009. *What percent of environmental improvement opportunities are within Wal-Mart's supply chain? How are suppliers addressing these opportunities? How is Wal-Mart is opening up to environmental nonprofits and reducing impacts profitably? What are Wal-Mart's sustainable value networks and what's required for effective strategy? How are they measuring environmental performance and using the results with associates, suppliers, customers, policy makers and the public? How is Wal-Mart trying to bring sustainability into supply logistics?*
6. **Walmart China: Sustainable Operations Strategy,"** by Robb, David, Hopwood Ben and Wang Lei, Ivey Business Publishing
7. "**The Wal-Mart Supplier Sustainability Assessment**" (based on Wal-Mart public documents which will be posted on Blackboard). *How is Wal-Mart working with their suppliers to increase energy/fuel efficiency and utilize renewable energy sources in their operations and throughout the supply chain? How is Wal-Mart planning to reduce greenhouse gas emissions and yet improve its bottom line?*
8. "**Scandinavian Airlines: The Green Engine Decision**" by J. Lynes, Ivey Case 909M28, 11-June-2009. *"Scandinavian Airlines (SAS) is an innovator of strategic environmental management ... This case study is part of a larger study that was conducted between 2002 and 2005 on the motivations for environmental commitment at SAS. This green engine case study looks at the airline's determination to invest in the best available environmental technology for its new fleet of aircraft.*"
9. **GE's Imagination Breakthroughs: The Evo Project**" by C.A. Bartlett, B.J. Hall, and N.S. Bennett, Harvard Case 9-907-048, 30-June-2008. *Executives must decide what to recommend to GE CEO Jeffrey Immelt regarding an innovative hybrid diesel-electric locomotive development program ("Evo") that experiences continual battery cost/performance problems and lack of commercial viability. One executive "argues that it represents an important and disruptive [green] technology that could change the competitive game going forward."*
10. "**Toyota Motor Corp.: Launching Prius**" by F.L. Reinhardt, D.A. Yao, and M. Egawa, Harvard Case 9-706-458, 7-Dec-2006. *"Although students will know that Toyota decided to launch the Prius and that the car is now regarded as a success, it was far from clear at the time … exactly how the product ought to be launched, and very few students will know the circumstances of the product introduction (positioning, volume, and price) on which the success of the introduction depended."*
11. **Grameen Danone Foods Ltd: A Social Business**; By V. Kasturi Rangan & Katherine Lee; Prod # 511025 PDF-ENG

12. **Freeport-McMoRan Copper and Gold Inc: An innovative voluntary code of conduct to protect human rights, create employment opportunities and economic development of the indigenous people**," by S. Prakash Sethi, David B. Lowry, Emre A. Veral et al., Journal of Business Ethics, 2011, Issue 103
13. "**Maria Yee Inc.: Making 'Green' Furniture in China**" by M. Shao and G. Carroll, Stanford Case SI-110, 16-Jan-2009. *Maria Yee Inc. struggles with cost competiveness, logistics, developing a reliable green supply chain, and getting consumers to appreciate/value the ecological benefits of their furniture.*
14. "**Cradle-to-Cradle [C2C] Design at Herman Miller: Moving Toward Environmental Sustainability**" by D. Lee and L. Bony, Harvard Case 9-607-003, 16-Dec-2009. *How can Herman Miller capture first-mover advantage from a strategic environmental initiative through operational excellence? What is required to get suppliers to comply with the C2C protocol? Should Herman Miller share know-how to accelerate adoption of environmentally beneficial practices by competitors?*
15. "**Lean and Green: The Move to Environmentally Conscious Manufacturing**" by R. Florida, *California Management Review*, Fall 1996, 39(1), pp. 80-105. *"This article examines the relationship between advanced production practices and innovative approaches to environmentally conscious manufacturing. It argues that adoption of manufacturing process innovations creates incentives for adoption of environmentally conscious manufacturing strategies.*"
16. "**Plantar S.A. (Brazil): The Value of Carbon Assets**" by J. Zerio and M.A. Conejero, Thunderbird Case TB0011, 28-Aug-2009. "*[W]hat was the true value of a ton of carbon dioxide removed from the atmosphere? How would market prices be set? Who would be the major players in the international market place? Given the … time frame of the project—28 years—what would be the appropriate Internal Rate of Return? … What would be the real ecological impact of the project? What methodologies would need to be followed?*"
17. **"McDonald's Corp.: Managing a Sustainable Supply Chain**" by R.A. Goldberg and J.D. Yagan, Harvard Case 9-907-414, 16-Apr-2007. "*McDonald's Europe was targeted by Greenpeace in a public campaign against Amazon deforestation caused by soya farming. … McDonald's worked with Greenpeace, Cargill, and the Brazilian soya industry to find a solution… [and] was charged with developing the 'strategies and tools' necessary to build on the Brazilian soya success and move closer to the vision of a sustainable supply chain.*"
18. "**Starbucks Corporation: Building a Sustainable Supply Chain**" by S. Duda et al., Stanford Case GS-54, May 2007. *"If Starbucks was able to overcome the implementation issues that it faced, C.A.F.E. Practices could go a long way towards improving the sustainability of its coffee supply chain while at the same time improving Starbucks' image as a socially responsible corporation.*"
19. **Whole Foods: Balancing Social Mission & Growth,"** Christopher Marquis, Marya Besharov & Bobbi Thomason; Prod # 410023 – PDF-ENG.
20. **"Understanding Corporate Social Responsibility with the integration of Supply Chain Management in Outdoor Apparel Manufacturers in North America and Australia,"** International Journal of Business and Management Science, By Dargusch, Paul; Ward Adrian, 2010, Volume 3, Issue 1.
21. **"Food for Thought: Social versus Environmental sustainability practices performance outcomes,"** Authors: Madeline E. Pullman, Michael Maloni & Craig Carter; Journal of Supply Chain Management, Publication Date: October 19, 2009.
22. **"From Plague to Paradigm: Designing Sustainable Retail Environments",** by S. Bishop and Dana Cho, *Rotman Magazine*, Spring 2008, pp. 56-61. *Considering a shopper's context is the key to understanding their motivations and making green products and services relevant to them.*

23. "**Toyota: Driving the Mainstream Market to Purchase Hybrid**" by J. Saperstein and J. Nelson, Ivey Case 904A03, 3-Feb-2004. *"As Toyota's focus on hybrid-electric technology is evolving from one product to the full line of vehicles, the company's challenge is to develop consumer attitude and purchase intent, from an early adopter, niche market model into universal mainstream acceptance."*

==========

13. Indicate which of the program's measureable student learning outcomes are addressed in this course

The graduate engineering management program objectives are to provide opportunities for:

(a) The development of technical management decision making abilities
(b) The acquisition of knowledge about the management of existing and emerging technologies
(c) The development of technical professional employee management skills
(d) The acquisition of knowledge of engineering cost, financial, and economic analysis
(e) Continued intellectual growth in a discipline – related area

This course, MSE695SUS, will address program objective (e) as it will enable students to attain intellectual growth in the field of sustainability, which is an area closely related to engineering management.

This course is designed to facilitate students' ability to:

(i) Identify the 3 aspects of sustainability which include economic, environmental and social.
(ii) Describe & Analyze sustainability aspects in industry, based on case study discussions.
(iii) Explain the implementation of best practices in sustainability to different industries.
(iv) Develop a model for implementing sustainability into organizations.

14. Methods for assessment for measureable student outcomes

Since this course is primarily case study based, its assessment will be based on discussions in class and group HW assignments and projects. One of the methods of assessment will be in class participation of the students. The Collaborative Learning Model will be implemented in this course to a great extent. Furthermore, the students will be asked to come up with lists of best practices that can be applied in various industries, where sustainability is of concern in their supply chain. The students will also be judged on the basis of the midterm exam which will test the extent of applicability of concepts learned in varying industries.

In addition, the 2 term papers related to actual industry issues, will give the students an opportunity to attain intellectual growth in the field of sustainability by demonstrating their understanding of the concepts discussed.

Lastly, there will be a final project where the students will have to choose a company that does sustainability, evaluate it based on concepts learned in class and submit a report stating the pluses and minuses of the sustainability program implemented by that company. They will also be required to develop a model for implementing sustainability in their organizations and provide recommendations on how the gaps identified can be filled; proposing innovative solutions to the problems that currently exist in the field.

15. Record of Consultation (continued from Table Above)

Date	Dept/College	Dept Chair/Program Coordinator	Concur
	COBAE (College of Business & Economics)	**Judith Hennessey**	**IP**