COURSE GUIDE – SPRING 2025

Digital Strategies for Sustainability
in Global Markets
*(with field consulting projects and experiential learning trip
to Copenhagen, Denmark from March 17-21)*

DSO 554 -- OMAR A. EL SAWY

🏛 Room TBC ⏱ *9 am -12 noon for 7 select Saturdays as noted in schedule on Page 4. Please note that the course is front-loaded and fast-paced in terms of workload in the first half of the semester!*
You will also absolutely need to attend the first class on Saturday January 18th to stay enrolled!

The course includes 7 sessions of 3 hours each, and a field consulting project and an international experiential trip to Copenhagen, Denmark that includes 5 full days of company visits/lectures/briefings. Travel costs will be borne by students and for Spring 2025 are $2000 in additional course expenditures in addition to airfare. The trip logistics in Denmark are managed by Marshall Global Programs & Partnerships.

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COURSE DESCRIPTION & OBJECTIVES:

This is a multidisciplinary cross-functional course that is suitable for MBA and MS students from all business functions and with interests in any industry. The course provides a managerial understanding of business strategies for sustainability in a global environment which is becoming increasingly enabled by digital technologies.

In its most generic and simplest form, sustainability strategy is about meeting the needs of the present without compromising the ability of future generations to meet their own needs. In the corporate world, strategies for sustainability are still in their infancy and not yet well integrated into corporate strategy or digital business strategy – but we are moving steadily in that integration direction.

But -- sustainability has many other facets in addition to the temporal longitudinal dimension of not compromising future generations nor resources. It comprises many different components. A successful business strategy for sustainability is much broader than just "green" and must consider the multiple facets of the business ecosystem in which an organization operates: socio-cultural, economic, and technological – and not just the natural physical environment. Thus, a successful business strategy for sustainability must worry about operating profitably while protecting/restoring the natural environment, but also about how actions affect members of society, and resonate with cultural values. Furthermore, a sustainability strategy has a cross-sectional ecosystem dimension and is also about creating common shared value for all stakeholders in the communities and markets that the enterprise operates within. Furthermore, sustainability strategy has a collaborative consumption dimension when idle resources are shared. Think Uber, Airbnb, etc.. and how the sharing economy allows the shared use of idle resources. In short, sustainability strategy is a multi-faceted phenomenon that requires our careful managerial attention across the corporation or institution, and it is not about compliance, but it is about creating new opportunities and new business models.

In the context of sustainability strategy "the elephant in the room" are digital technologies and digital business models and the new opportunities that this creates. The course will also specifically focus on how to take advantage of digital technologies for sustainability strategies – and hopefully you will appreciate why as we go through the course. We now live in a technology intensive digital world that is filled with ubiquitous high-speed communication wireless networks, real-time sensors, smart grids, social networks, and a multitude of mobile devices. These technologies are enabling novel digital business models that enable open innovation, complex sensing, real-time information, health and environment monitoring, customer co-creation, and much more. This provides a multitude of new options for intelligent business strategies for sustainability. In the next few years the energy and environment industries (include smart clean energy) will undergo a radical transformation due to the use of digital technologies, and many industry boundaries will shift in associated industries such as building and construction, real estate, tourism, transportation, and wellness/healthcare. Furthermore, smart cities and smart government services are also slowly but surely becoming more digital-platform-centric. Smart sustainable city initiatives in a growing number of cities around the world are steadily and surely becoming a reality rather than just a battle cry. We have recently instituted a new graduate course DSO 521 that focuses on Smart City Tactics, Technologies, and Operations, and is taught by Ted Ross.

This course has always focused on global markets and has included field consulting projects with companies in an overseas location, and an international experiential learning trip. This is now the 14th

round for this course and for the first seven years we have focused on the UAE (Dubai and Abu Dhabi), a context which has provided a very rapid emerging growth global development venue where sustainability issues abound. The course experience has been consistently highly rated by both companies and participants. Starting from the 8th round in Summer 2019 we have shifted our focus to the more established Nordic region – we specifically focus on Denmark – where there is a refreshingly progressive view of sustainability strategy, digital strategies for sustainability, digitalization, humanistic perspectives, and smart city services. Furthermore, in case you did not know: Denmark has been consistently ranked among the top three happiest countries in the world year after year in the World Happiness Report. So, they must know or do something that we don't…

The instructor will work to secure the field consulting projects in October, November and December in both Copenhagen, Denmark and Malmo, Sweden. Companies for past years have included TDC (telecom and media), Maersk (shipping), Coloplast (intimate healthcare), COWI (engineering consulting), Novo Nordisk (Pharmaceuticals), GreenMobility (electric car service), Orsted (wind turbines), IKEA (furniture), Holo (driverless vehicles), BioMar (aqualculture), Arla (dairy products), Falck (Healthcare Services), HOFOR (utilities), Orestad Innovation City, Boozt (fashion). We look forward to similarly learningful and engaging fulfilling days of projects and visits for Spring 2025.

SKILLS AND MINDSET ACQUIRED THROUGH THIS COURSE:

It is becoming increasingly critical for managers to understand and appreciate what business strategies for sustainability are, how to design them, and to become sensitized to the challenges of organizational implementation. Most importantly, the course provides a managerial understanding of business strategies for sustainability in a business environment which is becoming increasingly driven and enabled by digital technologies. The **objective of the course** is to give you the skills and mindset to be a full participant in such progressive undertakings at the managerial level.

COURSE OBJECTIVES

Upon successful completion of this course, class participants will be able to:
1) Scope and assess a business strategy for sustainability, & understanding the drivers of sustainability
2) Explain digital business models and how they can enable novel sustainability strategies
3) Describe digital platform ecosystems and their critical properties
4) Proactively transform value chain activities in a company for sustainability
5) Assess the economic global opportunities in the Nordic region
6) Consult as part of a team in an international location and context
7) A future-looking familiarity with the energy/environment/transportation/smart city sectors
8) Demonstrate a mature perspective on what business strategy for sustainability with multiple stakeholders means for your managerial future

COURSE SCHEDULE & TOPICS
Digital Strategies for Sustainability in Global Markets

Session #	Date (2025)	Topic	Special Events
1	Sat Jan 18[1] *(MLK is Jan 20)*	Course Orientation & Intro. to Smart Sustainability & Digital Business Models – and their inter-connection	*Explanation of Trip Procedures by Marshall Office of Global Programs, and explanation of Project Procedures*
2	Sat Jan 25	Digital Disruption in the Smart Energy Sector: And more on sustainability strategy and digital platform business models…	*Sector Case #1 – Smart Clean Energy/Environment* **Assignment#1 Due**
3	Sat Feb 8 *(President's day is Feb 17)*	Real-Time Business Models, KPIs, and Dashboards in Sustainability Initiatives: Monitoring & Measurement	*Sector Case #2 – Smart Sustainable City/Transportation* **Assignment#2 Due**
4	Sat March 1	The Danish Nordic Economic and Cultural Context, and its outlook on smart sustainability	*Country Orientation & Travel Information*
5	Sat March 8	Consulting Project Presentations with Feedback	***Interim Class Presentations for Teams***
International Trip	Friday Mar 14 thru Saturday Mar 22, 2024	International Field Trip to Denmark. Full day 9-5 sessions at 4 companies from Monday through Friday with a cultural activities day – High energy required!	*Company visits, Presentations and Briefings by Senior Company Executives; Workshop & Presentation by USC MBA/MS teams; Discussions*
6	Sat March 29	Integrative Re-Cap & Lessons for the Future	*Golden Nuggets Assignment & Team "Left to-do" Consultations* **Assignment#3 Due**
7	Sat April 26 *(Easter is Sun April 20)*	*Consulting Project Walkthroughs with Feedback*	*Final Walkthrough Presentations for Teams*

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[1] **You do need to attend the first class to stay enrolled. Course is front-loaded and will accelerate quickly! You will need to turn in your first assignment on Sat Jan 25, and there are readings for Sat Jan 18.**

Wed April 30	*** *Final Team Consulting Report due*	

꧁ PEDAGOGY & LEARNING METHODS ꧁

The course has 5 interrelated learning components as below. ***Please note that the course is front loaded with more work in the first half of the semester until the trip.***

1. CASES & READINGS: The 1st component is a series of sector cases and readings to help you understand the key issues, underlying concepts, enabling technologies, and effective techniques for digital sustainability strategies. This learning will take place through five scheduled sessions before the trip. Individual case-related write-ups are required.

2. TEAM CONSULTING PROJECT: The 2nd component (major) is working on a team consulting project that gives you the challenge/opportunity of dealing with the details and the idiosyncrasies/fickleness/fuzziness of a company project and honing your skills through doing and shaping. Teams are assigned to each of the companies. An oral class presentation by each team is required before the field trip; another is expected at the company, as well as a final walkthrough at end of semester. A written report for each team is also required as well.

3. COUNTRY ORIENTATION: The 3rd component is an orientation session on the Danish economy and Nordic model and culture.

4. FIELD TRIP: The 4th component is a field trip to the Copenhagen companies. The field trip provides a vibrant and immersed learning environment for bringing together the first and second components to a new level of understanding. It involves a 5-day schedule of on-site visits to learn about and discuss digital sustainability strategies with managers of the 5 selected companies and other briefer visits. It is an intense business experience with a grueling (but exciting) all-day schedule that requires your full attention and does not leave time for sightseeing – although we try to fit quick "strategic" side trips at the end of the day. There are 2 free days in addition to the 5 days of visits. All participants are expected to be actively engaged in this first-hand experience at *all* the companies during the field trip.

5. DRAWING LESSONS FOR THE FUTURE: The 5th component is an integrative recap of what was learned through the first 4 components, reflecting back, and drawing lessons for the future. One session and one "golden nuggets" assignment is dedicated for that immediately after returning from the field trip. We have also typically brought in class alums from previous years over video.

GENERATIVE AI POLICY

In this course, I encourage you to use artificial intelligence (AI)-powered programs to help you with assignments that indicate the permitted use of AI. You should also be aware that AI text generation tools may present incorrect information, biased responses, and incomplete analyses; thus they are not yet prepared to produce text that meets the standards of this course. To adhere to our university values, you must cite any AI-generated material (e.g., text, images, etc.) included or referenced in your work and provide the prompts used to generate the content. Using an AI tool to generate content without proper attribution will be treated as plagiarism and reported to the Office of Academic Integrity. Please review the instructions in each assignment for more details on how and when to use AI Generators for your submissions.

📖💻 COURSE MATERIALS & READINGS

1. Book: Werbach, Adam *Strategy for Sustainability: A Business Manifesto*, Harvard Business School Press, 2009. The book is available from Amazon (Kindle edition too), Harvard Press, and other bookstores. You need to get this book and it is required. It is older but has IMHO the correct (and not always prevalent) business perspective on sustainability.

2. Other Readings: Articles from professional journals and trade press, and industry reports. These will be made available on-line through the Brightspace class folder.

3. Optional Book: Elkington, John *Green Swans: The Coming Boom in Regenerative Capitalism*, Fast Company, 2020. This is an intriguing book that is a manifesto for system change deserved to serve people, planet, and prosperity. Elkington shows how today's "Ugly Ducklings" may turn into tomorrow's world-saving "Green Swans".

4. Initial field consulting project information for each of the companies will be provided at start of semester to each of the company teams. Each company team will then be responsible for gathering further information pertaining to the company and the field consulting project, and for maintaining liaison with the company.

5. Brightspace Course Folder: ***There will be a session preparation guide posted for every session on Brightspace***. Other than the book that needs to be purchased (see items 1 & 2 above), other readings will be posted on Brightspace course folder – as will session PowerPoints, assignment instructions, administrative information, etc. Please check it frequently! The sections that are populated typically are Syllabus, Assignments, and Content.

📖💻 RELATED BOOKS & READINGS
If you have deeper special interest in any of the topics we will cover, let me know and I will recommend related books that may be useful and fun. I can also recommend readings related to your project focus as needed.

☝ COURSE ASSIGNMENTS, GRADING, & POLICIES ☝

Each individual's effort and grade will be based on the following 4 components. Please note that extraordinary effort in any of those components will be recognized. Conversely, plagiarism in written assignments will be dealt with very severely as per USC rules.

1. TWO INDIVIDUAL CASE WRITE-UPS (20%)

Each participant is required to submit two individual case write-ups. The first is a sector case which will analyze exemplary company strategies using digital technologies in the clean energy/environment space. The second is a transportation or smart city case with a sustainability focus. Instructions provided for each case to guide your write-up.

2. TEAM CONSULTING PROJECT (55% -- 38% for report, 17% for presentations)

We will form project teams based on student preferences, project requirements, and what the instructor thinks are balanced multi-skill teams. We therefore cannot guarantee that you will get your first preference. Each team will be responsible for organizing itself and gathering further information pertaining to the company and the consulting project. This may involve visiting the local Southern California offices of similar companies if appropriate. There will be one team project report. Each team member will also be asked to assess the relative contributions/efforts of all the other member of their team in order to reward excellence and avoid free riders.

The team will be required to give two presentations: an interim presentation before the trip (March 8 - see course schedule), and a presentation to the company in Denmark. The two presentations are graded (a composite grade based on the first presentation and how much progress was achieved in the second). At the time of the trip presentation, the project is typically about 1/2 done depending on the project circumstances. There will also be a project walkthrough on April 26 related to the final report presented to the company.

The final report is due after the final walkthrough (due April 30 - see schedule). The report is expected to be about 40-50 VI^{3}P pages (in addition, appendices can be attached). Apart from being reviewed and evaluated by the instructor, it will also be sent to the company. VI^{3}P format is Vertical PowerPoint that is Intensive, Inviting, and Interactive. It is a consulting report format that we named in this course which yields consulting reports that are more likely to be read by senior executives and are more likely to engage them without being superficial. They also take advantage of internet active links. It is a format for the digital age.

3. ACTIVE PARTICIPATION IN CLASS SESSIONS & FIELD TRIP (15%)

The course will move through material relatively quickly. Each class will build on material from previous classes. Thus *it is very important that participants attend and be prepared for each class*. You are expected to actively discuss both readings and cases and add to the learning of the class. Quality is heavily favored over quantity.

In addition to active in-class participation, you are also expected to actively engage in useful discussion and attentive listening during the field trip. It is a great opportunity to engage with company managers.

Furthermore, to encourage cross-team fertilization and learning, a portion of your participation grade is based on how well you provide thoughtful input to consulting teams other than your own. Optional peer evaluations will be used for this latter component.

OPEN EXPRESSION AND RESPECT FOR ALL

An important goal of the educational experience at USC Marshall is to be exposed to and discuss diverse, thought-provoking, and sometimes controversial ideas that challenge one's beliefs. In this course we will support the values articulated in the USC Marshall "Open Expression Statement" (https://www.marshall.usc.edu/open-expression-statement

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4. INTEGRATIVE GOLDEN NUGGETS ASSIGNMENT (10%)

There is also a written "golden nuggets" assignment that is due on Saturday immediately after returning from the trip (March 29). A "golden nugget" is an insight, a management practice, a rule of thumb, a lesson, or a revelation that you have found to be particularly valuable or unique. In the context of this course the "golden nugget" would be about digital strategies for sustainability in global emerging markets --- especially in the context of Denmark, and that you "found" through your various experiences in this class. We would like you to reflect back on those experiences and to draw lessons for the future. Your write-up will identify and describe 5 "golden nuggets," and how they have changed your understanding of digital strategies for sustainability, digital business models, smart cities, sustainability practices, or idiosyncrasies of contexts like Denmark – and how you will approach these in the future as a manager.

☝ CLASS PARTICIPATION PROFESSIONALISM ☝

Your participation grade is based on quality and a sincere effort to provoke, learn and understand, rather than quantity. The more you engage with the class with passion, intellectual curiosity, and interest, the higher will be your participation grade, and the more successful and exciting our learning experience will be – and the more fun you will have. We are all here to learn and share our understanding.

1- Attendance: You are expected to attend all sessions. If you cannot attend for an extenuating circumstance then please inform the professor through e-mail that you are unable to attend, or your absence will affect your participation grade. Treat it like a professional meeting at work: if you cannot attend, you are expected to inform the person running the meeting as a professional courtesy. *There are only 7 in-class sessions so it is especially important to attend all sessions.*

2. Engagement: You are expected to attend and prepare for each class and to actively engage in the discussion of readings and cases. If you don't keep up with the reading, you will not enjoy the class. Thus it is very important that you be prepared for each class. You are expected to actively discuss both readings and cases and add to the learning of the class, whether in the live classroom or on-line (if you see an article that is pertinent to the class – let us all know) or during the experiential class trip. You are also expected to raise questions that provoke the thinking of others. You may be randomly called upon in class to comment and answer questions, so please be prepared.

3. Laptops & Mobile Devices: It is a professional courtesy to devote your full attention in the class as you would in a face-to-face meeting at work. Using a laptop/device for e-mail, instant messaging, twittering, etc. or doing other assignments for other courses while in class or during company visits, is

deemed unprofessional and is distracting. The only exception allowable will be to look up something related to a company we are discussing at that moment. Please don't abuse that policy!

✈ 🧳 TRIP ADMINISTRATIVE ISSUES ✈ 🧳

In addition to airfare that you will need to purchase, travel has been set to $1850 in additional course expenditures. The fee will cover ground transportation in Denmark to companies, and hotel from Saturday March 15 to Saturday March 22 (double-room accommodation) as well as breakfasts. The hotel is the Scandic Kodbyen in the Vesterbro area of Copenhagen. Lunches will be provided by companies on the five visitation days; dinners will be your responsibility. The Marshall Office of Global Programs can answer all your questions about the trip issues. Denmark is 9 hours ahead of LA.

We will immediately need your filled-in passport information form as soon as you register so that the Marshall Office of Global Programs can determine any visa issues that may be a problem. The suggested schedule is that we will travel on Friday March 14th and arrive in Denmark on Saturday March 15th and be back on the Saturday 7 days later on March 22th. You may choose to extend your trip as you please at your own expense.

✈ *TRIP TO COPENHAGEN, DENMARK* ✈ *March 15-22, 2025*

    Company Visits in Denmark: *Monday March 17– Friday March 21, 2025*
    1- Monday March 17: TBA
    2- Tuesday March 18: TBA
    3- Wednesday March 19: Cultural activities
    5- Thursday March 20: TBA
    6- Friday March 21: TBA
Free time: Sunday March 16

STATEMENT ON ACADEMIC INTEGRITY

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. Scampus, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A:

http://www.usc.edu/dept/publications/SCAMPUS/gov/

Required USC Statement on Academic Conduct and Support Systems

Academic Conduct:

Students are expected to make themselves aware of and abide by the University community's standards of behavior as articulated in the Student Conduct Code. Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section 11, "Behavior Violating University Standards" https://policy.usc.edu/scampus-part-b/. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, http://policy.usc.edu/scientific-misconduct.

SUPPORT SYSTEMS:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call
studenthealth.usc.edu/counseling
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call
suicidepreventionlifeline.org
Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention and Services (RSVP) - (213) 740-9355(WELL), press "0" after hours – 24/7 on call
studenthealth.usc.edu/sexual-assault
Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Campus Support & Intervention (CSI) - (213) 740-0411
https://campussupport.usc.edu/
A team of professionals here to assist students, faculty, and staff in navigating complex issues. Whether you are here seeking support for yourself or someone else, we are available to help you problem solve, understand options, and connect with resources. Please note that we are not an emergency resource and are not available 24/7.

Office of Equity and Diversity (OED)- (213) 740-5086 | Title IX – (213) 821-8298
equity.usc.edu, titleix.usc.edu
Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following *protected characteristics*: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age,

physical disability, medical condition, mental disability, marital status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations. The university also prohibits sexual assault, non-consensual sexual contact, sexual misconduct, intimate partner violence, stalking, malicious dissuasion, retaliation, and violation of interim measures.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298
usc-advocate.symplicity.com/care_report
Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity |Title IX for appropriate investigation, supportive measures, and response.

The Office of Disability Services and Programs - (213) 740-0776
dsp.usc.edu
Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

USC Support and Advocacy - (213) 821-4710
uscsa.usc.edu
Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity at USC - (213) 740-2101
diversity.usc.edu
Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call
dps.usc.edu, emergency.usc.edu
Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call
dps.usc.edu
Non-emergency assistance or information.

Students with Disabilities

USC is committed to making reasonable accommodations to assist individuals with disabilities in reaching their academic potential. If you have a disability which may impact your performance, attendance, or grades in this course and require accommodations, you must first register with the Office of Disability Services and Programs (www.usc.edu/disability). DSP provides certification for students with disabilities and helps arrange the relevant accommodations. Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to your TA) as early in the semester as possible. DSP is located in GFS (Grace Ford Salvatori Hall) 120 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776. Email: ability@usc.edu.

Emergency Preparedness/Course Continuity

In case of a declared emergency if travel to campus is not feasible, the *USC Emergency Information* web site (http://emergency.usc.edu/) will provide safety and other information, including electronic means by which instructors will conduct class using a combination of USC's Brightspace learning management system (Brightspace.usc.edu), teleconferencing, and other technologies.