Syllabus

DSCI 499.1 (24022) Bachelor’s Essay

Supply Chain Management
Instructor: Dr. Christopher Starr
Office: Beatty Center 306
Email: starrc@cofc.edu

Meeting Time and Location: 3 PM to 4 PM, Thursdays during Spring 2020 in Beatty 112.

This syllabus is a continuation of the course that started in Fall 2019 as SCIM 499.2.

Professor: Christopher W. Starr, PhD
Office: Beatty 112, 5 Liberty St, Charleston, SC
Office Hours: MW 10 AM – 12:00 PM
TR 12:00 PM - 1:30 PM
Other times by appointment >= 1 day if possible

Contact Information: starrc@cofc.edu
Office Phone: 843 953-8150

Honors Student: Mya Belden, Senior, Honors College, Supply Chain Management major,
Spanish minor

Faculty Supervisor: Christopher Starr, Systems Science, PhD and Assoc. Prof. of Information Management

Course Description
According to the College of Charleston Undergraduate Course Catalogue this courses is:  A year-
long research and writing project completed under close supervision of a supply chain faculty
member. Faculty tutor will help in both the design and supervision of the project. A project
proposal must be submitted in writing and approved by the department prior to registration for
the course.
Prerequisite(s): Senior standing and department approval.

Course Learning Goals

1) To develop research skills and knowledge surrounding sustainable supply chains and
storage architectures such as blockchain technology
2) To better understand how to architect and instantiate the technical infrastructure needed
to store data and make it available for consumer platform development
3) Fulfill the requirements of the SCIM 499 Bachelor’s Essay.
4) To conduct original research with a goal of academic research presentation and
manuscript submission.
School of Business Learning Goals

This course directly addresses the Learning Goals established by the School of Business:

COMMUNICATION SKILLS: Student will demonstrate the ability, via both written and spoken word, to effectively present, critique, and defend ideas in a cogent, persuasive manner. Implementation: Proposal includes a polished manuscript to be presented at the 2019 American Real Estate Society meetings as well as submission to a peer reviewed academic publication. Demonstration of Achievement: Student will be assessed on her abilities in both written and oral presentations in the final project.

QUANTITATIVE FLUENCY: Student will demonstrate competency in logical reasoning and data analysis skills. Implementation: Student will analyze a large dataset to examine the hypothesis regarding the demands for corporate office real estate for the technology sector. Demonstration of Achievement: Student will be assessed on the quantitative analysis of the data collected.

SYNTHESIS: Student will demonstrate the ability to integrate knowledge from multiple disciplines incorporating learning from both classroom and non-classroom settings in the completion of complex and comprehensive tasks. Implementation: The project is designed to focus on the gathering and then the analysis of a large dataset. Demonstration of Achievement: Students will be assessed on their final project on their ability to understand the various disciplines impacting the project including legal, political, financial, and market feasibility.

Project Proposal

The primary goal of this project will be to investigate the environmental and social footprints of coffee products at each step within their supply chains in an effort to increase the traceability of products as well as the information available to consumers at the decision-making point.

Literature sources: TBD. Between 20 and 100 primary sources are expected to be used

Data sources (primary): Bloomberg Terminal, interviews of coffee suppliers

Data sources (secondary): .gov databases and other compiled sources

Data storage and analytics tools: AWS or other relevant cloud resources considered

Deliverables

1) Literature review
2) Data dictionary of footprint variables and sources
3) Data collection
4) Architectural descriptions of data storage options
5) Implementation of one or more data storage solutions
6) Implementation of a client-facing solution, such as a product label or a mobile application for consumer use
7) Essay/manuscript
The success of a research project leading to a bachelor’s essay is also dependent on excellent communication and the execution of complimentary executive skills between the student and mentor. A communication system, calendar and project management system will be considered to leverage effective interactions.

**Grade Point Distribution (100 point scale)**

1) Literature review 10%
2) Data dictionary of footprint variables and sources 10%
3) Data collection 10%
4) Architectural descriptions of data storage options 10%
5) Implementation of one or more data storage solutions 20%
6) Implementation of a client-facing solution, such as a product label or a mobile application for consumer use 20%
7) Essay/manuscript 20%

**Letter Grade Map (100 point scale)**

<table>
<thead>
<tr>
<th>Points</th>
<th>Letter Grade</th>
<th>Points</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 94</td>
<td>A</td>
<td>73-75.99</td>
<td>C</td>
</tr>
<tr>
<td>90-93.99</td>
<td>A-</td>
<td>70-72.99</td>
<td>C-</td>
</tr>
<tr>
<td>86-89.99</td>
<td>B+</td>
<td>66-69.99</td>
<td>D+</td>
</tr>
<tr>
<td>83-85.99</td>
<td>B</td>
<td>63-65.99</td>
<td>D</td>
</tr>
<tr>
<td>80-82.99</td>
<td>B-</td>
<td>60-62.99</td>
<td>D-</td>
</tr>
<tr>
<td>76-79.99</td>
<td>C+</td>
<td>&lt;60</td>
<td>F</td>
</tr>
</tbody>
</table>

The Grade for Fall 2019 will be “IP” for In Progress. The Grade for Spring 2020 will apply to the six credit hours earned.

**Draft Deliverables for Fall 2019**

1) Literature review
2) Data dictionary of footprint variables and sources
3) Data collection of supply chain data
4) Architectural descriptions of data storage options
5) Implementation of one or more data storage solutions

**Draft Deliverables for Spring 2020**

6) Implementation of a client-facing solution, such as a product label or a mobile application for consumer use
7) Data collection of consumer-facing data
8) Essay/manuscript
**Technology Enablers** (Installed and SaaS applications)
- Slack – communication and file sharing
- Trello – project and task planning
- Zotero – bibliography management
- Google Cloud – document development

**Reasonable Accommodation Policy**
Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should the Center for Disability Services/SNAP, located on the first floor of the Lightsey Center, Suite 104. Students approved for accommodations are responsible for notifying me as soon as possible and for contacting me at least 48 hours before accommodation is needed.

**Center for Student Learning**
I encourage you to utilize the Center for Student Learning’s (CSL) academic support services for assistance in study strategies and course content. They offer tutoring, supplemental instruction, study skills appointments, and workshops. Students of all abilities the services are available to you at no additional cost. For more information, please visit CSL website at [http://csl.cofc.edu](http://csl.cofc.edu) or call (843)953-5635.

**Honor Code**
Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved. Incidents where the instructor determines the student’s actions are related more to a misunderstanding will handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed by both the instructor and the student, will be forwarded to the Dean of Students and placed in the student’s file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student’s transcript for two years after which the student may petition for the X to be expunged. The F is permanent. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board.

Students should be aware that unauthorized collaboration—working together without permission—is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others’ exams, fabricating data, and giving unauthorized assistance. See the *Student Handbook* at [http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php](http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php).
Name and Pronoun Statement
I will gladly honor your request to address you by the name and gender pronouns of your choice. Please advise me of this early in the semester via your college-issued email account or during office hours so that I may make the appropriate notation on my class list.

Course Continuity
If the College of Charleston closes and members of the community are evacuated due to inclement weather, students are responsible for taking course materials with them in order to continue with course assignments consistent with instructions provided by the instructor. Do not leave your academic materials in Charleston. Take them with you.

In cases of extended periods of institution-wide closure where students have relocated, the instructor will articulate a plan that allows for supplemental academic engagement despite these circumstances. Instructions will be posted on OAKS.

Privacy
Let me know immediately regarding expectations of privacy in addition to FERPA privacy due to reasons such as the Federal Witness Protection Program, restraining orders or other concerns.
Project Title: **Improving the information transparency, integrity and availability of coffee product supply chains through blockchain technology**

In this project, I will investigate the environmental and social footprints of coffee products at each step along their supply chains from grower to retailer in an effort to increase the traceability of products as well as the information available to consumers at the decision-making point. The environmental footprint in the context of coffee production and distribution includes variables such as water usage, energy usage, farming methods and greenhouse gas emissions. The social footprint concerns farmer welfare, fair payment and child labor.

I plan to collect footprint information on coffee products and architect three ways in which to organize the data for increased utility and transparency. The approaches include a spreadsheet, a relational database and the use of blockchain on Amazon Web Services. From one of the storage solutions, a platform will be constructed for consumers and businesses to compare coffee products in terms of their impact on the environment and producers. The information could also take the form of a new label added to products to specify where the coffee came from with producer details in addition to the breakdown of its environmental footprint at each point in the supply chain.

Once I have collected the information and created the storage platform, I will conduct a series of surveys analyzing consumer behavior at the decision-making point. Consumers will be presented with coffee product options to choose from. Each product will feature varying granularities of information. The results of the surveys will determine whether or not product transparency and information availability influences consumer decision making.

This kind of database and platform is necessary for consumers and businesses to be able to measure the impact of their purchasing decisions. As a result of our consumer behavior, the climate is changing and modern slavery persists. If consumers and businesses had access to information concerning where the coffee product under purchase consideration originated, who produced it and under what conditions as well as how heavily it impacted the environment, their purchasing decisions might change. The following sources provide the basis for my research:


Kouhizadeh et al explain the role of blockchain within supply chains and the potential it has to improve sustainability practices. It explains the technology which consists of decentralized ledgers that record supply chain transactions on a reliable peer-to-peer network which provides a transparent, immutable and authenticated platform. This platform could transform materials, information and financial flows through supply chains and provide traceability in an effort to manage sustainability practices. The article also explores uncertainties, opportunities and challenges of adopting blockchain technology.

Macdonald discusses initiatives, such as Fair Trade and Starbucks’ CAFÉ Practices, that attempted to transform the global coffee industry. The paper acknowledges that these initiatives have improved producer empowerment, though only under the conditions of the initiatives, which are designed as, “discrete systems of supply chain governance,” which limits their ability to advance producer well-being shaped by actors beyond the supply chain institution. The conclusion of the paper states that conceptual and institutional models are necessary to enable empowerment outcome enforceability and consistency to ensure that justice can be realized.


Trienekins explores the complexity and challenges found within food supply chains. The author attributes this complexity to the increasing number of products entering markets and the resulting flow of raw materials, ingredients and products on a global scale as well as the need to satisfy demands concerning food safety, animal welfare and environmental impact. Trienekins explores the elements of transparency such as governance mechanisms, quality and safety standards as well as information exchange. The article also identifies major information system functions and information technology applications needed for compliance.


Van Loo explores the attention consumers pay to sustainability information featured on food products. The focus of the study was on the importance attached to sustainability attributes and how it related to the visual attention paid to these attributes in the decision-making process in addition to willingness-to-pay. The results of the study suggest that consumers who are more place spend more time on sustainability attributes value them more.

**Budget**

- $100 AWS support, provided by SCIM department
- $0 Poster printing provided by Geology in SSM
- $0 Office supplies provided by the SB
- $0 Full-articles for literature review provided by Addlestone Library

**Travel**

Conference attendance and data collection may require travel support. Requests for conference travel support will be made to the SCIM department.

Conferences under consideration include but are not limited to

- Gartner Supply Chain Conference May 13-16 Phoenix AZ
- Supply Chain Summit: Mastering the Digital Supply Chain June 10-12
- Retail Supply Chain Summit May 6-8 New York
- Supply Chain Logistics Management Executive Seminar May 5-10 Michigan State
• 3PL Supply Chain Summit June 10-12 Atlanta
• INFORMS Advances in Decision Analysis June 19-21 Milan Italy
• INFORMS International Conference June 9-12 Cancun Mexico
• Intro course to Tableau May 2-3 Cincinnati