

**PLEASE READ THIS MEMORANDUM OF UNDERSTANDING (MU) THOROUGHLY BY
JANUARY 15TH, 2019 AND BE PREPARED TO DISCUSS THE ASSIGNED READING
MATERIAL FOR THE FIRST CLASS SESSION**

**COURSE NUMBER: SCM 302-02
COURSE TITLE: OPERATIONS MANAGEMENT
SEMESTER: SPRING 2019
MEMORANDUM OF UNDERSTANDING (MU)**

PLACE

Class sessions will be held at 212 Joseph M. Bryan School of Business and Economics.

TIME

9:30 A.M. to 10:45 A.M. on Tuesdays and Thursdays.

UNIVERSITY OPERATIONS DURING ADVERSE WEATHER CONDITIONS

The University of North Carolina at Greensboro will remain open during adverse weather conditions unless an administrative decision on schedule changes is made by the Chancellor. If students have a question on whether classes are delayed, canceled, or if the university is closed, then they must call the **Inclement Weather Hotline** at (336) 334-4400 or the **UNCG Switchboard** at (336) 334-5000.

FACULTY MEMBER

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APPOINTMENT TIME

11:00 a.m. to 12:00 noon on Tuesdays and Thursdays only. You are encouraged to stop in during office hours to talk about any problems or suggestions you may have concerning the course, careers, graduate school, benefits of majoring in supply chain management, or things in general. If you want to talk to the faculty member and find the appointment hours to be inconvenient, feel free to schedule any other appointment time.

CATALOG COURSE DESCRIPTION

Survey of the operations functions of organizations with emphasis on design and control decisions. Qualitative and quantitative problem-solving methods used to enhance managerial competence in the operations functions.

PRE-REQUISITE COURSES

The student should be of junior standing with a concentration in the Bryan School of Business and Economics and must have successfully completed the ISM 110 (Business Computing I) course or its equivalent. The material to be covered in the Operations Management (SCM 302) course will be built on concepts learned in a high school mathematics class, Financial Accounting (ACC 201), and Managerial Accounting (ACC 202). For a student to do well in the Operations Management course, the student should be able to:

- 1) Set up an algebraic equation with one unknown variable and solve for it.
- 2) Plot points on an X-Y grid using the location co-ordinates and compute the distances between those points.
- 3) Relate ratios and fractions in space (length, area, and volume) and time.
- 4) Compute the mean (average), median, and mode of a distribution.
- 5) Differentiate between revenues, fixed costs, variable costs, and profits and compute Return on Sales (ROS) and Return on Investment (ROI).

INTRODUCTION TO TOPICS COVERED

Operations Management is the process of converting resources into products. Resources may include materials, equipment, capital, and labor. Products may include manufactured goods or services. "Operations" is defined here as the set of activities directed toward the conversion of resources into goods and services. The "Management" (described as planning, organizing, staffing, leading, monitoring, and controlling) of these activities (and resources that enable them) is called Operations Management (OM). Operations management is concerned with an almost unlimited spectrum of organized efforts -- from the manufacture of printed electronic circuit boards to the delivering of a social service by a local government; from the fast-food business to the health services industry. All of these involve activities directed toward the conversion of resources into products.

Operations management (OM) has, in effect, been in existence since man first organized his efforts toward productive tasks, such as hunting, farming, building and trading. More recently production/operations management has become a defined body of knowledge since the managerial revolution beginning in the early twentieth century. Operations management has its roots in many areas of study, such as industrial engineering, materials/inventory management, manufacturing management, production scheduling, quality control, forecasting, etc. Examples of questions that are of concern in the field of OM are:

- 1) How do we reduce costs in our organization, and here at UNCG?
- 2) How do we increase our workers' productivity in The Registrar's Office?
- 3) Are we having quality problems with our heart surgeries?
- 4) Where should we locate our new central distribution facility at Ralph Lauren?
- 5) What process should a caseworker follow in handling his/her caseload at the County Health Services Department?
- 6) How many iPhones should we carry in December's inventory?
- 7) How many Honda lawnmowers will we sell next year?
- 8) Should we work overtime in Asheboro or hire new production workers in Mexico to make more Dust Busters?
- 9) Should make the components ourselves or should we outsource that to a supplier in China?
- 10) Can we afford to automate part of our production process to make more office furniture at Brayton Furniture?

- 11) Can we afford not to automate part of our production process?
- 12) Should we sell our manufacturing plant in Asheboro?

GENERAL COURSE OBJECTIVES

The following basic objectives represent important learning goals of the course organization and content:

- 1) Provide a basic understanding of the production/operations function of an organization and its relationship to the rest of the organization.
- 2) Provide a basic understanding of the major decision areas, support systems, and tools used to solve the problems and provide decision-making information for production/operations management.
- 3) Provide an opportunity to apply some of the tools and techniques used for production/operations management problems.

REQUIRED READING AND VIEWING MATERIALS

Text Book

The customized (paperback) version of the Operations Management text book with ISBN 10: 1323514120 or ISBN 13: 9781323514122 (available in the Barnes & Noble Bookstore in the Elliott University Center at UNCG) without the MYOMLab software will be used in the SCM 302-03 section of the Operations Management course for Fall 2018 semester. The customized (paperback) version is not available in “on-line” retail stores. The customized (paperback version) is made up of 13 chapters and 3 supplements from the following book:

Heizer, J., Render, B., and Munson, C. (2017). *Operations Management: Sustainability and Supply Chain Management* (12th edition). Pearson Education, Inc. ISBN 978-0-13-413042-2 or ISBN 0-13-413042-1.

The MYOMLab software will not be used in the class. The customized (paperback) version of the Operations Management text book will be bought back by the Barnes & Noble Bookstore (at UNCG) if the same will be used in Fall 2019 semester.

Videos

There are 15 videos that should be viewed prior to the class sessions. The videos are placed in Box and will be shared with students. There is no need to purchase these videos.

Students should read and view the required materials prior to attending each class session. Students should have the appropriate reading materials available for each class session.

GRADING

The course grade is based on three exams (including the non-comprehensive final exam), one individual written assignment, and a team term paper. Each of the first two exams will consist of approximately 5 short-answer questions (i.e., multiple-response, true or false statements with substantiation, and brief discussions) and 2 quantitative analytical problems. The final exam will consist of approximately 10 short-answer questions (i.e., multiple-response, true or false statements with substantiation, and brief discussions) and 4 quantitative analytical problems. The total number of points on the short-answer questions will roughly equal the total number of points on the problems. All exams are closed-book,

and closed-notes. Grades are based on the following "absolute" scale (i.e., there will not be any "curving").

	<u>Points</u>	<u>Date</u>
In-Class Assignment on Sustainability	10	1/31/2019
Exam # 1	50	2/14/2019
Exam # 2	50	3/21/2019
Individual Written Assignment	15	4/2/2019 (Due)
Term Paper	75	4/25/2019 (Due)
Final Exam	100	5/7/2019 (12:00 noon to 2:30 p.m.)

TOTAL	300	

A \geq 270; A- \geq 260; B+ \geq 250; B \geq 240; B- \geq 230; C+ \geq 220; C \geq 210; C- \geq 200; D+ \geq 190; D \geq 180; D- \geq 170; and F < 170.

RE-EXAMINATION POLICY

As a rule, re-examinations will not be held. Absence from the examinations due to illness, summons to jury duty, or any other compelling reason should be backed by the appropriate documents (e.g., medical certificate, etc.) to qualify for re-examinations. If possible, meet/talk with the professor before missing any examination to discuss the circumstances.

WITHDRAWAL

The last date to drop courses without receiving academic penalty is March 11th, 2019 (Monday).

INDIVIDUAL WRITTEN ASSIGNMENT

Each student has to submit a critique of an organization-based article that you have read from magazines (such as Fortune, or Business Week), newspapers (such as the Wall Street Journal, the Washington Post, the New York Times, or the News & Record), or journals (such as Production and Inventory Management Journal, Industrial Management & Data Systems, Quality Progress, Quality Digest, International Journal of Operations and Production, Industry Week, Managing Service Quality, International Journal of Service Industry Management, Managing Service Quality, or Industrial Management). The article should relate to one specific company and must have been published after October 31st, 2018. The written assignment should relate primarily to any one topic of Operations Management covered in sessions 1 through 20. Students should make a habit of reading these magazines/newspapers/journals periodically.

Students should work on this written assignment on an individual basis (not in a group or a team). Individuals should neither seek nor receive help from friends and family in completing this written analysis. The written assignment should be typed (maximum 12 point size lettering), double-spaced on 8.5" by 11" paper, and minimum 3 full pages in length. Each written assignment should not typically exceed 5 pages in length. The assignment should be stapled and paginated.

The analysis should be written for an audience that is not familiar with the concepts related to operations management. Please assume that you are writing this critique for the campus newspaper. The individual written assignment should include three sections. The first section should be the summary of the article and a description of the topic (of the course) to which the article relates; the second section should relate to what you learnt about the issue/topic concerned from the Operations Management (SCM 302) course, and the last section should be an analysis and critique of the article from the view point of what you learnt from the course. The third section is an integration of the first two sections. That is, the analysis and critique should integrate the article with what you learnt from the course on that subject. To strengthen your analysis, you could use other information (published in other articles or from the company web site) on the organization referred to in the selected article. For the sake of clarity, please include a copy of the article and other information used in your submission. The article, text book, and other materials should be appropriately referenced in your written assignment using the guidelines provided in the following publication:

American Psychological Association (2009). *Publication Manual of the American Psychological Association*. Sixth edition. Washington, DC: American Psychological Association.

Prior to making your choice on a particular article, please feel free to consult with the faculty member on the relevance of the article to the Operations Management (SCM 302) course material. Please select the article of appropriate length (that is, one that is neither too short nor too long). Individuals are requested to refrain from repeating the details provided in the article (just to fill up space) in their written analysis. That is, individuals are requested to cover the topic thoroughly, but efficiently. Do not add verbiage for the sake of length. Oversized articles or drawings should be folded to the 8.5 " by 11" format. In preparing the written analysis, write from an objective view, in third person. Do not use the words "I", "We", or "You". Use subheadings to correspond with specific issues. The written assignment will be graded on organization, thoroughness, insight of analysis, and written communication skill.

The individual written assignment is to be submitted at the beginning of the class period on April 2nd, 2019. Late submissions will not be accepted. A separate cover page should include the title of the assignment, course title, course number (and section number), and name of the student. Each student should attest (with a signature) that "I HAVE ABIDED BY THE ACADEMIC HONOR POLICY ON THIS ASSIGNMENT" on the cover page of the individual written assignment.

TERM PAPER

Each student team (consisting of four students) is to write a paper analyzing the operations function of an organization (or part of a large one). You may need to interview line managers or staff personnel in the organization to obtain an understanding of the operations function and how it is managed. The interview process must include a visit to the facility where the operations (to be described in the term paper) are carried out. Each and every member of the team must make the visit to the facility. The paper should use the Operations Management (SCM 302) course outline as a guide in organizing the analysis. Feel free to use the objectives listed in the "Schedule of Sessions" section of this Memorandum of Understanding (MU) to create the outline/list of questions/issues for the visit to the organization. All major topics in the course outline (session 1 through session 27) that are applicable to the organization should be addressed, preferably in the order in which they appear in the outline. If some of the topics in the course are not applicable to the organization, the reasons for the same should be provided. The analysis should make use of the concepts presented in the course with respect to the

various topics. If the organization deals with international suppliers or customers, then specific details of how the operations are different should be provided in the paper.

In addition to analyzing the operations function as it exists in the organization, the paper should make one or two recommendations for improvement where appropriate. In general, the paper should be written from the point of view of an objective operations management professional, who is writing for an audience that is familiar with the principles, concepts, decision/problem areas, and techniques of operations management (at the level of SCM 302), but not familiar with the specific organization being analyzed.

Each team is encouraged to develop the outline of each section of the paper prior to the visit to the organization. This approach will not only reinforce the learning in preparation for exams, but also distribute the work associated with the term project more evenly over the semester. Students should feel free to discuss the term paper project with the professor as it is being developed. The written paper should be typed (maximum 12 point size lettering), and double-spaced on 8.5" by 11" paper. No minimum or maximum length is specified, although the papers are typically 20 to 25 pages long. Cover the topics thoroughly, but efficiently. Do not add verbiage for the sake of length. Include diagrams, photos, sketches, or other types of illustrations that will clarify your presentation. The paper should be stapled (or placed in a binder) and paginated. Write the paper from an objective standpoint. That is, do not use the words "I", "We", or "You". Use subheadings to correspond with specific issues. The interviews with concerned individual(s) of the organization, text book, and other materials should be appropriately cited and referenced in your written assignment using the guidelines provided in the following publication:

American Psychological Association (2009). *Publication Manual of the American Psychological Association*. Sixth edition. Washington, DC: American Psychological Association.

The term paper will be graded on organization, thoroughness, insightful of analysis/recommendations, process of executing the term paper assignment, and written communication skill. It is highly recommended that a project management approach be taken for ensuring the timely completion of the project. The detailed procedure for completing the term project is given in the last 6 pages of this memorandum of understanding (MU). During the semester, the faculty member would be seeking feedback on the progress of the term paper. Points on the term project will be deducted if the procedure described is not followed.

The term paper (along with an additional copy of the same which will be sent to the organization by the professor) is to be submitted at the beginning of the class period on April 25th, 2019. Late submissions will not be accepted. A separate cover page should include the title of the assignment, course title and course number (including section number), and the names of the students in the team. Each member of the team should attest (with a signature) to the statement that "WE HAVE ABIDED BY THE ACADEMIC HONOR POLICY ON THIS ASSIGNMENT" on the cover page of the term paper.

PEDAGOGIC APPROACH

Lectures, video films, and situation vignettes will be used. The "lecture" sessions will rely on the "Socratic" method to the extent possible. All students are expected to attend each class session. If a student misses a specific class session, it is her/his responsibility to cover the topics so missed. Material covered in a previous class will not be repeated in a subsequent class. The schedule of sessions in the memorandum of understanding (MU) contains a listing of topics and assignments to be covered in the

respective sessions. For a better understanding of the course content, each student must prepare for the topics and assignments (listed in the MU) prior to the appropriate class session. Each student should be prepared to discuss the assigned readings for each class session. The Discussion Questions (from the specific chapters in the text book) and the questions/issues identified as **WBCS !** in the respective class session should be **Worked Before the Class Session**. The information needed to answer the Discussion Questions and the questions/issues identified as **WBCS !** is directly available in the appropriate chapter/supplement in the text book or the assigned video. On an individual basis, each student may wish to work on the problems and questions and turn it in for checking by the professor. This would certainly assist the student in preparing better for the course and exams. The assigned questions given in the MU are only representative of the concepts that can be expected on the exams. The list of questions is not an exhaustive one. The MU provides a general plan for the course; deviations may be necessary. Students are required to maintain a three-ring binder for the course and take notes in the class sessions. A calculator (with the functions of addition, subtraction, multiplication, division, and square-root) and the text book should be brought to every class session.

COGNITIVE COURSE OBJECTIVES

Upon completing the course, the student should be able to:

- 1) Differentiate difference between productivity, effectiveness, efficiency, and other performance measures in operations management.
- 2) Explain the factors that make a service operation more difficult to manage as compared to a manufacturing operation.
- 3) Compare and contrast the different types of conversion systems (i.e., project, job shop, batch flow, line flow, and continuous flow processes).
- 4) Use project management techniques to plan a project.
- 5) Develop and use a process control chart for managing quality.
- 6) Describe the role played by total quality management in organizations.
- 7) Describe the typical objectives and constraints in the aggregate planning problem related to both manufacturing and service organizations.
- 8) Distinguish between long range, intermediate range, and short-range capacity planning in operations management.
- 9) Identify the factors that influence the location of service versus manufacturing facilities.
- 10) Identify the important aspects and issues related to facility design decisions.
- 11) Discuss the role of logistics in operations management.
- 12) Elaborate on the role of a forecasting system in the operations of an organization.
- 13) Explain the role of strategic sourcing in the procurement of materials for operations management.
- 14) Differentiate the inventory management concerns between dependent demand items and independent demand items.
- 15) Substantiate the value and importance of various Lean Systems/Just-in-Time/Total Quality Management (“JIT/TQM” or “Pull”) systems and techniques.
- 16) Discuss the role of Enterprise-wide Resource Planning (ERP) Systems in organizations in general, and supply chain/network management in particular.
- 17) Describe how operational and supply chain processes enable firms to deliver sustainable products and services to the marketplace.
- 18) Work in a team and achieve the desired objective.
- 19) Use project management techniques to execute a project.
- 20) Manage one's time effectively and efficiently.
- 21) Develop skills to become self learners (i.e., learning to learn).

TECHNOLOGY APPLICATIONS

There would be some coverage of technological advances relating to Operations Management in the course.

ETHICAL PERSPECTIVES

There would be minimal coverage of the ethical issues as they relate to the course.

GLOBAL PERSPECTIVES

The global environment and its impact on operations is being felt more and more as we move towards the next century. There would be some coverage of these global perspectives in this course.

POLITICAL, SOCIAL, LEGAL, ENVIRONMENTAL, AND REGULATORY ISSUES

Political, social, legal, environmental, and regulatory issues, to the extent applicable, will be covered in this course. It is anticipated that the coverage would be minimal.

IMPACT OF DEMOGRAPHIC DIVERSITY

There would be minimal coverage of this issue in the course.

HONOR POLICY

Students are expected to comply with the UNCG Honor Policy described at the following web page:
<http://academicintegrity.uncg.edu/complete/>

FACULTY STUDENT GUIDELINES

The faculty and students in the course are expected to adhere to the faculty student guidelines stated at the following web page:
<https://bryan.uncg.edu/wp-content/uploads/2017/08/Faculty-and-Student-Guidelines-2018-2019.pdf>

STATEMENT OF STUDENTS' RIGHTS AND RESPONSIBILITIES

As a student in this class you have explicit rights and responsibilities. Your full understanding and acceptance of the following rights and responsibilities can lead to more useful time in the class and more effective learning.

You have the right to expect:

- a) Your professor to be prepared for each class, to start class promptly at the designated time and to end the class at the designated time.
- b) Your professor to teach all scheduled classes or arrange for a qualified substitute if it is necessary to miss class because of illness or University approved commitments.
- c) Clear statements of course expectations, policies, testing, and grading practices and student performance.

- d) Your professor to hold a reasonable number of office hours to discuss assignments or to assist you with course matters.
- e) Knowledgeable assistance from your professor regarding class assignments and course content.
- f) Your professor to behaviors reflecting equitable treatment, ethical practices, and respect for human rights.
- g) Opportunities to challenge ideas and defend your beliefs in a professional manner.
- h) To be challenged so as to grow both academically and professionally.
- i) Your professor to abide by University policies and to have fairness and clarity in the evaluation of your performance.
- j) Adequate opportunity to appeal any perceived violations of the above rights.

You have specific responsibilities to:

- a) Plan your study and work schedule appropriately to allow sufficient time to do quality work in the course.
- b) Attend each class on time (and be present during the entire class session) and be prepared to discuss readings and participate in discussions.
- c) Complete assignments by due dates and submit quality work.
- d) Understand and follow course policies as explained in class and in the memorandum of understanding.
- e) Commit yourself to grow both academically and professionally by treating class sessions as business meetings.
- f) Work effectively and cooperatively as a team member on the team project as assigned.
- g) Practice ethical behaviors and display respect for the rights of others. Please refrain from eating, drinking, and chewing gum in the classroom.
- h) Contact your professor and discuss circumstances that may prevent you from achieving acceptable performance and to make contact on a timely basis.
- i) Fully understand and abide by the UNCG Honor Policy and other University policies on student conduct.
- j) Report observed violations of the UNCG Honor Policy.

BIOGRAPHIC SKETCH OF FACULTY MEMBER

Vidyaranya B. Gargeya is a Professor in the Department of Information Systems and Supply Chain Management (ISSCM) in the Joseph M. Bryan School of Business and Economics at The University of North Carolina at Greensboro (UNCG). From 2006 through 2013, he was the Director of the Bryan Master of Business Administration (MBA) Program at UNCG and from 2013 through 2017, he served as the Head of the Department of Information Systems and Supply Chain Management. During the 2012-2014 period, Dr. Gargeya served as the co-Director of the Quality Enhancement Plan (QEP) process and a member of the Senior Leadership Team for UNCG as part of the re-affirmation of the university by the Southern Association of Colleges and Schools Commission on Colleges. Dr. Gargeya currently teaches primarily in graduate and executive programs. He holds a bachelor's degree in Chemical Engineering from Andhra University, Visakhapatnam (India), a Post Graduate Diploma in Management from the Indian Institute of Management, Bangalore, and a Ph.D. in Business Administration from Georgia State University. He has considerable work experience as an engineer, and manager in the petroleum industry.

Dr. Gargeya has taught at the University of Strathclyde (Glasgow, Scotland), Fachhochschule-Ludwigshafen (Germany), University of Hartford, Georgia State University, and the Jannalal Bajaj

Institute of Management Studies, University of Bombay (India). His expertise spans the areas of global operations strategy, supply chain management, total quality management and continuous improvement, customer relationship management, performance measurement, service operations management, and general management. Dr. Gargeya has received, for his contributions to teaching, numerous awards including The University of North Carolina Board of Governors Award for Excellence in Teaching (2008), Bryan School of Business and Economics Tenured Faculty Teaching Excellence Award (2007), UNCG Alumni Teaching Excellence Award (2006), Wick Skinner Award for Teaching Innovation from the Production and Operations Management Society (2003), Bryan School of Business and Economics Senior Faculty Teaching Excellence Award (2002), and the Bryan School of Business and Economics Teaching Excellence Award (1997). He received the Business Media Leader Mover & Shaker Award in 2009 and the Triad Business Leader of the Year Award, 2011. His teaching innovations include the ACID Test (an interactive case examination with a guest speaker presentation) and the year-long in-process integrative course (titled Pizza, Picasso, and the Pyramids) for first year students in the full-time day MBA program.

Vidyaranya Gargeya has published more than 25 articles in journals such as *Journal of Operations Management*, *International Journal of Production Research*, *Computers & Industrial Engineering*, *Omega*, *International Journal of Quality and Reliability Management*, *Case Research Journal*, *Technovation*, *Transportation Research Part E*, *Business Process Management Journal*, *Decision Support Systems*, *The Journal of the Textile Institute*, and *Clothing and Textiles Research Journal* and has presented more than 70 papers at national and international conferences. He has co-authored a book titled *Customer Relationship Management: A Global Perspective*. Dr. Gargeya served on the Board of Examiners of the Malcolm Baldrige National Quality Award and the North Carolina Awards for Excellence and he has also consulted with Fortune 500 companies. He served as the Academic Affairs Faculty Fellow, University of North Carolina System for the 2017-2018 academic year.

SCHEDULE OF SESSIONS

SESSION #	DATE	TOPICS AND ASSIGNMENTS
1	1/15	<p>READ THE MEMORANDUM OF UNDERSTANDING BY THIS DATE</p> <p>INTRODUCTION TO OPERATIONS MANAGEMENT</p> <p>WBCS ! Chapter 1 (Operations and Productivity, Pp. 1-13): Discussion Questions 1, 4, 5, 6, and 7.</p> <p>WBCS ! Chapter 6 (Process Strategy, Pp. 257-266): Discussion Questions 1, 2, and 6. Problems 1 and 2.</p> <p>WBCS ! Video: Product-Process Matrix (Video Number 12 in DVD posted in Box).</p> <p>WBCS ! Video: Louisville Slugger Aluminum Bat Plant Tour (Video Number 14 in the DVD posted in Box).</p> <p>WBCS ! 1) What are the main elements in an "Operations Systems" Model (given as the Economic System in Figure 6 on page 13 of the text book?)</p> <p>WBCS ! 2) What are the primary differences between manufacturing and service operations?</p> <p>WBCS ! 3) Based on the "Product-Process Matrix" video, compare and contrast the different conversion processes (i.e., project, job shop, batch, mass production/assembly line, and continuous process).</p> <p>WBCS ! 4) Based on the "Louisville Slugger Aluminum Bat Plant Tour" video, identify the conversion process (i.e., project, job shop, batch, mass production/assembly line, or continuous process) used in the making of aluminum bats. In addition, identify the strategic operations management decisions (listed in Table 2 of Chapter 1 of the text book) that are relevant to the Louisville Slugger Aluminum Plant of Ontario, CA.</p> <p>WBCS ! 5) Be prepared to calculate the break-even volume for a process (by solving Problems 1 and 2 in Chapter 6 of the textbook).</p>
2	1/17	<p>JOURNEY TO EXCELLENCE</p> <p>WBCS ! Chapter 1 (Operations and Productivity, Pp. 14-29): Discussion Questions 8, and 12. Problems 1, 4, 5, and 6.</p> <p>WBCS ! 1) Briefly describe the Journey to Excellence Model and the role of quality (and sustainability) in the journey to excellence.</p> <p>WBCS ! 2) Explain the difference between productivity, effectiveness, and efficiency.</p> <p>WBCS ! 3) Differentiate between a partial measure of productivity, multifactor productivity (with <u>two or more inputs</u>), and total productivity (with <u>all inputs</u>, and called as total factor productivity).</p> <p>WBCS ! 4) Differentiate between a partial measure of productivity, multifactor productivity, and total productivity (also called as total factor productivity).</p>

SESSION #	DATE	TOPICS AND ASSIGNMENTS
3	1/22	<p>PROVIDE THE NAMES OF THE MEMBERS OF THE TEAM FOR THE TERM PAPER ASSIGNMENT</p> <p>OPERATIONS STRATEGY FOR COMPETITIVE ADVANTAGE Chapter 2 (Operations Strategy in a Global Environment): Discussion Questions 10 and 12.</p> <ol style="list-style-type: none"> 1) How are strategic decisions different from tactical decisions? 2) Identify and discuss the role of competitive priorities (qualifiers and order winners) in manufacturing and service organizations. 3) Discuss the relationship between organizational/corporate objectives, corporate strategy, business unit strategy, functional strategy, and operations strategy.
WBCS !		
4	1/24	<p>SUBMISSION OF 1ST, 2ND, AND 3RD CHOICE OF ORGANIZATIONS FOR TERM PAPER PROJECT</p> <p>INTRODUCTION TO PROJECT MANAGEMENT Chapter 3 (Project Management, Pp. 63-81): Discussion Questions 1, 2, 3, 5, 6, 7, 11, 12, 19, and 20. Handout Problem. Video: Project Management at Six Flags, New Jersey (Video Number 1 in DVD posted in Box).</p> <ol style="list-style-type: none"> 1) Discuss the importance of project management. 2) Identify the three fundamental objectives in managing projects. 3) Differentiate between Gantt charts and networks. 4) What is the difference between Activity-On-Arrow and Activity-On-Arrow networks. 5) Based on the “Project Management at Six Flags, New Jersey” video, describe the tools and techniques used in managing the project at Six Flags, New Jersey.
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SESSION #	DATE	TOPICS AND ASSIGNMENTS
5	1/29	<p>PROJECT MANAGEMENT Chapter 3 (Project Management, Pp. 81-110): Discussion Questions 15 and 17. Problems 8, 9, 11, 28, 29, 30, 31, and 32.</p> <p>WBCS !</p> <ol style="list-style-type: none"> 1) For the timely completion of your term paper: <ol style="list-style-type: none"> a) Identify all the activities in completing the term paper. b) Estimate the activity times of those activities. c) Draw a precedence diagram (network) of those activities. d) Develop a critical path for your network and then identify the critical activities. e) List the early start, late start, early finish, late finish, total slack, and free slack for each of those activities. 2) Given the requisite information, be prepared to developed an Activity on Node or Activity on Arrow network, identify the critical path(s) for a project, and discuss mechanisms for “crashing” a project.
6	1/31	<p>IN-CLASS WRITTEN ASSIGNMENT ON SUSTAINABILITY (20 minutes).</p> <p>SUSTAINABILITY Supplement (Sustainability in the Supply Chain): Discussion Questions 1, 3, 4, and 5.</p> <p>WBCS ! Video: Green Manufacturing at Xerox (Video Number 4 in the DVD posted on Box).</p> <p>WBCS ! Video: Green Product Design and <i>phill</i> at Honda (Video Number 6 in the DVD posted on Box).</p> <p>WBCS !</p> <ol style="list-style-type: none"> 1) Explain the importance of sustainability from the standpoint of the systems view, commons, and the triple bottom line. 2) Describe life cycle assessment. 3) Based on the “Green Manufacturing at Xerox” video, explain how Xerox is using the 3 “Rs” in its operations. 4) Based on the “Green Product Design and <i>phill</i> at Honda” video, describe how the Honda Civic GX is different from the conventional Honda Civic. Also elaborate on the role of <i>phill</i> in running the Honda Civic GX.

SESSION #	DATE	TOPICS AND ASSIGNMENTS
6	2/5	<p>TOTAL QUALITY MANAGEMENT Chapter 5 (Managing Quality): Discussion Questions 1, 2, 3, 5, 6, 9, 10, 11,12, 15, and 16. Video: Six Sigma at Caterpillar (Video Number 3 in the DVD posted on Box).</p> <p>WBCS !</p> <p>1) What are the important facets of Total Quality Management? 2) What contributions did Deming, Juran, Feigenbaum, and Crosby make? 3) Describe the differences between ISO 9000 standard and the Malcolm Baldrige National Quality Award.</p> <p>WBCS ! WBCS !</p> <p>3) Based on the “Six Sigma at Caterpillar” video, describe how Caterpillar is using Six Sigma quality practices in its operations.</p>
7	2/7	<p>ACCEPTANCE SAMPLING AND STATISTICAL PROCESS CONTROL Supplement (Statistical Process Control): Discussion Questions 2, 3, 4, 5, 6, 7, 9, and 13. Problems 8, 10, 14, 15, 16, 17, 18, and 19. Handout problem.</p> <p>WBCS !</p> <p>1) Briefly explain the difference in the usage of acceptance sampling and statistical process control charts.</p> <p>WBCS !</p> <p>2) Describe in your own words the operating characteristic curve. 3) Be prepared to develop a process control chart (x-bar chart, R chart, and p chart) and understand the situations under which further investigation is required.</p>
8	2/12	<p>FORECASTING Chapter 4 (Forecasting, Pp. 111-122): Discussion Questions 1, 2, 3, 4, and 9. Problem 1 (only parts a and b). Video: Service Processing at Buycostumes.com (Video Number 2 in the DVD posted on Box).</p> <p>WBCS !</p> <p>1) Distinguish between forecasting and prediction. 2) Describe the role played by forecasting in operations management.</p> <p>WBCS !</p> <p>3) Discuss three different types of forecasting techniques. How are they different from quantitative forecasting techniques?</p> <p>WBCS !</p> <p>4) Understand the difference between short-range, medium-range (also called as intermediate-range), and long-range forecasting.</p> <p>WBCS !</p> <p>5) Distinguish between moving average (also known as simple moving average) and weightage moving average methods of forecasting.</p> <p>WBCS !</p> <p>6) Based on the “Service Processing at Buycostumes.com” video, describe the forecasting process at Buycostumes.com.</p>

SESSION #	DATE	TOPICS AND ASSIGNMENTS
12	2/26	SUBMISSION OF SCHEDULED DATE OF VISIT TO FACILITY
WBCS !		LONG RANGE CAPACITY PLANNING Supplement (Capacity and Constraint Management): Discussion Question 1, 4, 5, 8, and 10.
WBCS !		1) Differentiate in your words the concepts of capacity and output.
WBCS !		2) Differentiate between short-range, intermediate-range (also called as medium-range), and long-range capacity planning.
WBCS !		3) Describe “capacity leading demand” and “capacity lagging demand” strategies.
		4) Distinguish between “economies of scope” and “economies of scale”.
		5) Understand the difference between volume economy, capacity economy, and technology economy.
13	2/28	SUBMISSION OF LIST OF QUESTIONS/ISSUES FOR VISIT TO FACILITY
		FACILITY LOCATION Chapter 7 (Location Strategies): Discussion Questions 1, 2, 3, 4, 5, 6, 7, 8, 12, 14, 15, and 16. Problems 8, 9, 20, 22, and 23.
WBCS !		1) Distinguish between macro-level factors for facility location and micro-level factors for site selection.
		2) Differentiate between the most important factor for locating a manufacturing facility and the same for locating a service organization.
		2) What are the primary factors that affect the location of paper mill, textile mill, aluminum can making facility, and an automated teller machine?
		3) Be prepared to solve the facility location problem using the multi factor rating method, “Center of Gravity” method, and break-even analysis method.
14	3/12	INTRODUCTION TO FACILITY LAYOUTS
WBCS !		Chapter 8 (Layout Strategies): Discussion Questions 1, 2, 3, 4, 5, 6, and 7.
WBCS !		1) Describe a fixed-position layout and a work-cell layout.
WBCS !		2) Distinguish between a process layout and a product layout.
WBCS !		3) Some say that the office layout, retail layout, and warehouse layout are mere variations of the process-oriented layout. Do you agree? Please substantiate.
		DISCUSSION ON PROGRESS OF TERM PAPERS

SESSION #	DATE	TOPICS AND ASSIGNMENTS
15	3/14	<p>DESIGNING PRODUCT LAYOUTS AND ASSEMBLY LINE BALANCING Chapter 8 (Layout Strategies): Problems 12, 13, 14, 15, 16, 18, and 20.</p> <ol style="list-style-type: none"> 1) What is cycle time? What is its role in designing an assembly line? 2) What is the relationship between the production rate of a line and the cycle time? 3) Be prepared to develop a precedence diagram, balance a line and compute its efficiency. 4) What is the significance of "Efficiency Balance" in an Assembly Line? 5) List some non-quantitative considerations in the assembly line balancing problem.
16	3/19	<p>AGGREGATE PLANNING Chapter 11 (Aggregate Planning and Sales and Operations Planning, Pp. 487-505): Examples 1, 2, 3, and 4 (given on pages 496 through 501). Discussion Questions 1, 2, 3, and 4.</p>
WBCS !		<ol style="list-style-type: none"> 1) Be prepared to compute the total cost using the three strategies for a given aggregate planning problem (as given in Examples 2, 3, and 4 on pages 497 through 501 in the text book).
17	3/21	IN-CLASS WRITTEN EXAM # 2
18	3/26	<p>AGGREGATE PLANNING (Continued) Chapter 11 (Aggregate Planning and Sales and Operations Planning, Pp. 487-505): Discussion Questions 6, 7, 8, 9, 10, and 11. Problems 1, 2, 3, 4, 5, 6, 9, 10, and 12.</p> <ol style="list-style-type: none"> 1) Why does the aggregate planning problem exist? What are the objective function, planning period, and planning horizon in the aggregate planning problem? 2) Is the aggregate planning problem long range, medium range, or short range in nature? Please give an explanation for your conclusion. 3) What are the three typical strategies available for a manager in developing an aggregate production plan, i.e., what are the controllable variables? 4) What are the typical costs affected by the aggregate production plan? 5) Understand the specific characteristics of industries where the three extreme strategies could be applied.

SESSION #	DATE	TOPICS AND ASSIGNMENTS
19	3/28	SUBMISSION OF INDIVIDUAL WRITTEN ASSIGNMENT
WBCS !		INTRODUCTION TO INVENTORY MANAGEMENT Chapter 10 (Inventory Management, Pp. 443-451): Discussion Questions 1, 2, 3, 4, 8, and 15.
WBCS !		1) Identify the different functions served by inventory.
WBCS !		2) What are the different types of inventory?
WBCS !		3) What are safety stock and service level? How are they related?
		4) What are cycle counting and physical inventory? What purpose do they serve?
		5) What are the two fundamental questions answered by an inventory policy?
WBCS !		6) Explain the "ABC" classification scheme for inventory analysis. Why is it important?
20	4/2	INVENTORY MANAGEMENT DECISIONS (PERPETUAL SYSTEMS) Chapter 10 (Inventory, Pp. 451-470): Discussion Questions 5, 6, 7, 9, and 10. Problems 7, 8, 9, 10, 11, 12, 13, and 14. Handout problems.
		1) Given the required data, be prepared to compute the Economic Order Quantity, the Reorder Point, and Total Cost in a perpetual ordering system.
		2) Understand the relationship between the annual inventory holding cost fraction for each item and the annual inventory holding cost for each item.
21	4/4	INVENTORY MANAGEMENT DECISIONS (PERIODIC SYSTEMS) Chapter 10 (Inventory, Pp. 470-471): Discussion Questions 13 and 18. Handout problems.
		1) Given the required data, be prepared to compute the Economic Order Interval (i.e., the time between orders), and the quantity to be ordered at a given point in time in a periodic ordering system.
		2) Under what assumptions would a fixed order quantity system be chosen over a fixed order interval system, i.e., what practical considerations would encourage the use of a fixed order quantity system over the use of a fixed order interval system?
		3) How do these two systems relate to the concepts of "continuous review" and "periodic review"? Which one is event triggered and which one is time triggered? Which of the two systems requires more careful monitoring?
		4) Describe a hybrid system (as compared to perpetual and periodic systems).

SESSION #	DATE	TOPICS AND ASSIGNMENTS
22	4/9	<p>MATERIAL REQUIREMENTS PLANNING Chapter 12 (Material Requirements Planning and ERP, Pp. 523-544): Discussion Questions 1 and 4. Problems 1, 2, 3, and 4. Handout problem.</p> <p>WBCS !</p> <p>WBCS !</p> <ol style="list-style-type: none"> 1) Differentiate between independent and dependent demand inventory. (The answer to this question is on page 451 in Chapter 10 of the text book). 2) What is a Material Requirements Planning system and what is its purpose? 3) What is the significance of low level coding in developing an MRP? 4) What are the primary inputs and outputs in a MRP analysis? 5) Distinguish between "planned order release" and "planned order receipt".
23	4/11	<p>MATERIAL REQUIREMENTS PLANNING (Continued) Chapter 12 (Material Requirements Planning and ERP, Pp. 523-544): Discussion Question 7. Problems 5, 6, 7, 8, 9, 10, and 11.</p> <ol style="list-style-type: none"> 1) Be prepared to develop a Material Requirements Plan.
24	4/16	<p>MRP, MRP II, AND ERP SYSTEMS Chapter 12 (Material Requirements Planning and ERP, Pp. 544-562): Discussion Questions 13, 14, 16, 17, and 18.</p> <p>WBCS !</p> <p>WBCS !</p> <ol style="list-style-type: none"> 1) Distinguish between Material Requirements Planning (MRP), Manufacturing Resource Planning (MRP II), and Enterprise-wide Resource Planning (ERP).
25	4/18	<p>SUPPLY CHAIN MANAGEMENT Chapter 9 (Supply Chain Management): Discussion Questions 1, 2, 3, and 5. Video: Ford Supply Chain Management (Video Number 8 in the DVD posted on Box). Video: Ford Supply Organization (Video Number 9 in the DVD posted on Box).</p> <p>WBCS !</p> <p>WBCS !</p> <p>WBCS !</p> <ol style="list-style-type: none"> 1) What are the strategic implications of supply chain management. Why is it important? What is its role in enhancing performance of an organization? 2) Discuss the impact of globalization on the supply chain. 3) How does supply chain management relate to a service organization? 4) Based on the "Ford Supply Chain Management" and the "Ford Supply Organization" videos, discuss the role of supply chain management at Ford.

SESSION #	DATE	TOPICS AND ASSIGNMENTS
26	4/23	<p>SUPPLY CHAIN MANAGEMENT ANALYTICS Supplement (Supply Chain Management Analytics): Discussion Questions 1, 2, 3, 4, 7, 9, and 10. Problems 2, 3, and 4.</p> <p>1) Be prepared to evaluate the disaster risk in a supply chain. 2) Describe in your own words a “Bull Whip Effect”.</p>
WBCS !		
27	4/25	<p>SUBMISSION OF TERM PAPER</p> <p>JUST-IN-TIME/LEAN OPERATIONS SYSTEMS Chapter 15 (Lean Operations): Discussion Questions 1, 2, 3, 5, 7, 9, 10, 11, and 12. Video Film: Styro, Inc. (This video will be shown in class).</p> <p>1) What are the disadvantages or limitations in adopting a JIT system? 2) Is JIT more applicable to repetitive manufacturing or job shop operations? 3) Differentiate between Manufacturing Resource Planning (MRP II) and Just-in-Time (JIT) systems. 4) “JIT relates to reduction of inventory. One cannot inventory services. Hence, JIT is not applicable to services.” Take a position and defend. 5) Using the facts presented in the video film on Styro, Inc., answer the following questions: a) Why did the large lot size run produce stock-outs even though WIP inventory was high? b) How did small lot sizes help customer service? c) Why was production lead time reduced when the lot size was decreased? d) What is meant by the statement "Reduced inventory is the not the major benefit of JIT production"?</p>
WBCS !		
WBCS !		
WBCS !		
WBCS !		
28	4/30	<p>THE FUTURE OF OPERATIONS MANAGEMENT</p> <p>1) Describe the challenges in managing operations in the future. 2) Identify three important things you learnt in this course. Would those issues affect your professional life? If so, how so? If not, why not?</p>
29	5/7	<p>FINAL EXAM (150 Minutes) (12:00 noon)</p>

SCM 302-02
OPERATIONS MANAGEMENT
SPRING 2019

PROCEDURE FOR TERM PAPER ASSIGNMENT

- 1) Form a project team of four members. Notify professor of the constitution of the project team by January 22nd, 2019. It would be appropriate for each member to take on a different role. A time-keeper could keep the team members focused in the meetings as well as ensuring that the assigned work is being completed so that appropriate deadlines are met. A visit co-ordinator could serve as a liaison in fixing the visit as well as making telephone calls for collecting additional materials as necessary. A scribe/editor could be taking notes at each meeting as well as editing the materials submitted by the members of the team. A material organizer could ensure that all the materials (including references, appendices, and letters) are complete (in terms of content and coverage as per the schedule of sessions given in the memorandum of understanding). A project management approach in doing the assignment would certainly go a long way in enhancing the quality of the work as well as the timely completion of the term paper.
- 2) Determine team availability for meeting times and places. Schedule a team meeting (even if it were for a very short time period) every week. If this is not feasible exchange ideas/messages electronically. Assess members' interests on the type of organization to be studied. Research potential organizations based on agreed-upon interests. A partial list of organizations that students have visited in the past are on the next page. Identify first, second, and third choices of the organization to be studied. In order to obtain a rich experience, the organization should be large enough to employ at least 40 people. Some exceptions may be made depending on the type of industry. The deadline for submission of your first, second, and third choices of the organization to be studied for the professor's approval is January 24th, 2019. Make the organization where you work or have contacts as your first choice.
- 3) Call the plant/facility to get the name and address of the plant/facility manager. Address a letter to the individual explaining the class assignment and requesting a visit to the facility. This is mandatory. A sample letter is attached. If you call to request for a visit without having sent the letter, there is a strong likelihood that your request will be denied. Fix a date for your visit by calling the plant/facility manager. Please avoid being assigned to a standard public tour. Public tours will not provide you with adequate information to write the term paper. Inform the contact personnel (at the facility) that if any questions about the specifics of the class assignment should arise, they are welcome to call up the professor. Please try to schedule the visit to the facility sometime during the last week of March, 2019. This should enable you to get sufficient exposure to the SCM 302 material for preparing a fairly detailed outline of your term paper. The faculty member should be intimated of the scheduled date of the visit (along with the name of the organization, name and job title of contact person with telephone number and/or e-mail address) latest by February 26th, 2019.
- 4) Over the first couple of months, it would be appropriate to prepare a detailed outline of your paper. Before making the visit to the facility, as a team, "brainstorm" and make a list of questions that you would like to ask during your visit. This will help you to include all the key issues. Feel free to use the list of objectives provided in the Schedule of Sessions section of the MU in creating the list of questions/issues prior to the visit. Submit a list of your questions/issues to the professor latest by February 28th, 2019.
- 5) Once your request for a visit has been approved by the facility manager, call in advance to confirm the visit. Visit the facility. Be well prepared for this visit. Spend the time fruitfully in touring the facility, as well as interviewing key individuals. There should not be any inhibitions in asking the relevant

questions about the issues concerned. If permission is granted by the organization, tape record or video tape your visit. This would aid in the accurate gathering of information for the term paper.

- 6) Send a "letter of thanks" to the individual(s) concerned one day after the visit. In this letter you need to indicate that a copy of the paper will be sent by May, 2019. A copy of this letter needs to be turned in with your paper. This is mandatory.
- 7) Meet (as a team) as soon as you can after the visit to discuss the issues that you have learned. If there are any unanswered questions, call the contact person in the organization for a telephonic interview.
- 8) Meet as a team to discuss the preparation of the final paper.
- 9) The original and a copy (for the organization) of the term paper (along with copies of the two letters mentioned earlier) should be handed over to the faculty member (at the beginning of the class period) on April 25th, 2019. Late submissions will not be accepted.

Sample Introductory Letter

STUDENT NAME AND ADDRESS

Date _____

Name of Plant/Facility Manager _____

Name of Organization _____

Street Address of Organization _____

Town, and Zip Code _____

Dear _____:

I am a student in the Bryan School of Business and Economics at The University of North Carolina at Greensboro, and I am writing to inquire whether it would be possible for a team of 4 (four) students to visit your facility as part of a class assignment. We are enrolled in an Operations Management course taught by Dr. Vidyaranya B. Gargeya. He has assigned us to visit local manufacturing/service facilities, and then prepare written papers. The course covers topics such as operations strategy, product and process design, facility location and layout, forecasting, capacity planning, inventory management and purchasing, scheduling, operations planning and control, quality management, and just-in-time operating systems. We would like to have an opportunity to interview you or any one of the members on your staff to learn about how these topic areas relate to your organization. We would like to also tour your facility so that we could observe the operating processes.

If permission is granted to us to visit your facility, we will be happy to provide you with a copy of our written report. I will be calling you personally within the next ___ working days to discuss the possibility of our making a visit to your facility. In the meantime, if you have any questions, please contact me at _____ . Also, Dr. Vidyaranya B. Gargeya has indicated that he will be happy to answer any questions you may have with regard to the term project assignment. His office telephone number is (336) 334-4990.

On behalf of the members in my team, I look forward to talking to you in the near future.

Sincerely yours,

Name of Student

cc: Dr. Vidyaranya B. Gargeya
479, Bryan Building
The University of North Carolina at Greensboro
Greensboro, NC 27402

SCM 302-03
OPERATIONS MANAGEMENT
SPRING 2019

The following is a partial list of organizations visited by students for the term paper assignment in the past. This is to give you an idea of the type of firms that you could visit. Please first make attempts to visit organizations not given in this list.

<u>NAME OF ORGANIZATION</u>	<u>LOCATION (All are in North Carolina)</u>
1) Anna M. Gove Student Health Service (UNC-Greensboro)	Greensboro
2) BJ's Wholesale	Burlington
3) Creighton Inc.	Reidsville
4) Cross Creek Apparel	Mt. Airy
5) Crown Chrysler Jeep Dodge Ram of Greensboro	Greensboro
6) Dazzle Up LLC (Simply Southern)	Greensboro
7) Deere-Hitachi Construction Machinery Corporation	Kernersville
8) Dillard Paper Company	Greensboro
9) Dixie Sales	Greensboro
10) Dow Corning Corp.	Greensboro
11) Endura Products	Colfax
12) Ennis Flint	Thomasville
13) Georgia-Pacific	Asheboro
14) Gilbarco Veeder-Root, Inc.	Greensboro
15) Guy M. Turner, Inc.	Greensboro
16) Industries of the Blind	Greensboro
17) Jockey International	Randleman
18) Kriegsmann Furs and Outerwear	Greensboro
19) Lorillard Tobacco Company	Greensboro
20) Matco Tools (franchise)	Greensboro
21) Metal Stamping Works, Inc.	High Point
22) Moses H. Cone Memorial Hospital	Greensboro
23) Namco Controls	Newton
24) Newman Machine Co., Inc.	Greensboro
25) O'Neal Manufacturing Services	Greensboro
26) Proctor & Gamble	Greensboro
27) R. J. Reynolds Tobacco Company	Winston-Salem
28) Replacements, Ltd.	McLeansville
29) Roadway Package System	Kernersville
30) Spencer Infant & Children's Wear	Mt. Airy
31) Texas Roadhouse	Greensboro
32) The Sherwin Williams Company	Greensboro
33) Thomas Built Buses	High Point
34) TS Designs	Burlington
35) UNCG Dining Services (UNC-Greensboro)	Greensboro
36) United Parcel Service (UPS)	Archdale
37) U.S. Label Corp.	Greensboro
38) U.S. Postal Service	Greensboro
39) VF Jeanswear	Greensboro

PEER EVALUATION FORM (TO BE SUBMITTED ON APRIL 25TH, 2019)

Your Name: _____

Team Number: _____

Please use this form to rate the performance of your project team members. These ratings will be used to adjust (if necessary) the grade received by individual team members on the term project. Please do not rate your own performance. Written comments must be provided on the reverse of this sheet. Your ratings and comments on this form will be strictly confidential and hence please turn in this form individually (not in a team). Use the following scale for circling the performance of each team member:

1) Absolutely dissatisfied 2) Dissatisfied 3) Satisfied 4) More than satisfied 5) Delighted

Name of Team Member #1: _____

Name of Team Member #2: _____

Name of Team Member #3: _____

A. Punctuality and participation in team meetings (including visit to facility):

Team Member # 1	1	2	3	4	5
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Team Member # 2	1	2	3	4	5
-----------------	---	---	---	---	---

Team Member # 3	1	2	3	4	5
-----------------	---	---	---	---	---

B. Dependability to complete assigned work to meet dead lines at each stage of the project:

Team Member # 1	1	2	3	4	5
-----------------	---	---	---	---	---

Team Member # 2	1	2	3	4	5
-----------------	---	---	---	---	---

Team Member # 3	1	2	3	4	5
-----------------	---	---	---	---	---

C. Quality of work done at each stage of the project:

Team Member # 1	1	2	3	4	5
-----------------	---	---	---	---	---

Team Member # 2	1	2	3	4	5
-----------------	---	---	---	---	---

Team Member # 3	1	2	3	4	5
-----------------	---	---	---	---	---

D. Based on the ratings in categories A-C, the overall contribution in the completion of the project:

Team Member # 1	1	2	3	4	5
-----------------	---	---	---	---	---

Team Member # 2	1	2	3	4	5
-----------------	---	---	---	---	---

Team Member # 3	1	2	3	4	5
-----------------	---	---	---	---	---

If a team member does not turn in this form (duly completed) by April 25th, 2019, 4 points will be deducted from the team score for that individual. If a team member receives an average rating of 2 or less on category D (overall contribution), then 8 points will be deducted from the team score on the term paper for that individual. If a team member receives an average rating of 1 on category D (overall contribution), then 15 points will be deducted from the team score for that individual.

The following extreme descriptors (on the five-point scale) should be used:

- A. Punctuality, cooperation, and contribution in team meetings (including visits to organization):
 - 1. Did not arrive on time for most of the meetings. Did not cooperate (that is, was a “naysayer” most of the time). Did not contribute to the team discussions/meetings; was rarely prepared.
 - 5. Was always punctual for the meetings with substantial preparation in advance. Outstanding level of cooperation and engagement to handle the tasks at hand with a positive “can do” attitude. On occasion, would also help out (and motivate) the other members of the team to do their best.

- B. Dependability to complete assigned work to meet deadlines at each stage of the project:
 - 1. Did not complete assigned work on time or submitted work at the last minute therefore giving the other team members very little time to respond with comments or by action. Always had excuses on why tasks were not done.
 - 5. Always completed his/her task(s) well ahead of schedule. Never missed a task milestone and hence never produced an excuse for *why* work was not done. On occasion, helped others to complete their tasks on time.

- C. Quality of work done at each stage of the project:
 - 1. Work done was always incomplete. The others had to step in to complete the work. The work was sloppy with poor grammar, spelling errors and calculation mistakes.
 - 5. The work done was of an outstanding caliber with an excellent writing style and demonstrating excellent depth and breadth of analysis. Came up with integrative and innovative ways to represent results and/or organize the paper and presentation.

Comments (Required) on Strengths and Areas for Improvement for Individuals and the Team:
