MGO 302 EXAM TWO
Study Guidelines

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GENERAL INFORMATION

When: November 4, 2016. Your exam will be from 6:00 PM to 7:50 pm unless you have arranged to attend the 6:00 AM to 7:50 am session. This 6:00 am session is by reservation only- email Paul Song if you wish to take the exam at 6:00 am (jsong22@buffalo.edu). Please make your morning reservation by 3:00 pm on the day prior to the exam.

Where for the 6:00 PM session: If your last name starts with A – G, go to Knox 104.
If your last name starts with H - L, go to Knox 109.
If your last name starts with M – Z, go to Knox 20.

Where for the 6:00 AM session: Knox 104.

GENERAL INFORMATION FOR EVERYBODY

Format: 27 standard multiple choice questions and 5 super multiple choice questions. Please see the document ‘MGO302 Super Multiple Choice.pdf’ for a detailed description and practice examples for the super multiple choice section of this particular test. This document can be found in the Super Multiple Choice Practice Kit folder near the top of MGO302 Documents section of our UBlearns site.

Chapters Covered: Simpson & Hancock Chapters 6- 10.

Breakdown of Subject Matter of the 27 Standard Multiple Choice Questions:

Process and Facility Selection: 6 questions
Project Management: 6 questions
Location Planning and Logistics: 5 questions
Purchasing and Supply Chain Partnering: 5 questions
Inventory Management: 5 questions

Qualitative: 8 questions
Quantitative: 19 questions
Breakdown of 5 Super Multiple Choice Questions:

A complete list of all 60 definitions which might be among the five featured in the super multiple section of your exam is available in a spreadsheet called exam two keywords.xlsx on UBlearns. Here is the breakdown of these definitions according to topic area:

- **Process and Facility Selection:** 6 definitions (keywords from Chapter 6)
- **Project Management:** 6 definitions (keywords from Chapter 7)
- **Location Planning and Logistics:** 16 definitions (keywords from Chapter 8)
- **Purchasing and Supply Chain Partnering:** 30 definitions (keywords from Chapter 9)
- **Inventory Management:** 12 definitions (keywords from Chapter 10)

These individual keyword counts add up to more than 60 because some keywords are in more than one chapter.

**What to Bring to the Exam:**
- Pencil/Pen(s)
- Straight Edge Ruler, if desired

**What NOT to Bring:**
- **A calculator.** You should not bring a calculator because we will provide you with one. To learn all about the calculator we will loan you on exam day, turn to section MGO Exam Calculators later in this document. If you bring your own calculator, you will not be permitted to use it. Any attempt to consult any electronic device other than what we have provided will be interpreted as an act of cheating.
- **A phone.** If you cannot part with your phone, turn it off and put it away from sight. **You are not permitted to use your phone as a clock or consult it for any other purpose during the exam.** Failure to comply with this requirement can result in failure of the exam.
- **Scrap paper.** This is not necessary. Scrap paper (if needed) will be provided with the exam.
- **Notebook computer, tablet or personal data assistant.** Again, no electronics other than what we loan you will be permitted. See the section on MGO Exam Calculators to familiarize yourself with what will be available.
- **A dictionary.** You are not permitted to use a personal dictionary, such as a translating dictionary, during the exam. However, a paperback copy of the *Merriam-Webster English Dictionary* will be available for your use at the front of the exam room. Please read more about this later in this document

**QUICK GUIDE: WHAT PARTS OF THE FOLLOWING STUDY GUIDE ARE ACTUALLY NEW FROM LAST TIME**

All the information that follows is binding and valuable, but much of it are the same rules, policies and advice as appeared in your first exam study guidelines. That portion that is not the same (that which is specific to this exam) can be found…

- On page 4, under the header, **DETAILED ADVICE ON ‘WHAT MIGHT BE ON THE EXAM’**.
- On page 7 (the last page). This contains the formula sheet that will appear at the back of your exam.
PREPARING FOR QUANTITATIVE QUESTIONS. Generally, you would not find a numerical technique on an exam that we never rehearsed in class, although we wouldn’t necessarily have rehearsed all applications of that technique. Your textbook provides important variations on our lecture material (in the form of the end-of-chapter problems), and is thus often a key resource to an exam taker who wishes to do well. To help reduce the complexity of your preparation, you can expect that one-half to two-thirds of all quantitative questions to be direct “companions” of either Quick Start, Ramp Up or Scenario questions from the back of your chapter reading, meaning these questions contain the same language (with small adjustments for multiple choice), but different numbers and outcomes. Some may even be “companions” of in-chapter scenario demonstrations from the reading. Prior practice is the key to good performance on a time-constrained exam, so here is a suggested outline for preparation:

- **First study a particular problem we covered in class.** This is a good start, but only a start.
- **Next, test your understanding by locating the equivalent Scenario in your reading.** This is good practice in “problem recognition”, a skill you will need for the exam. Each problem we work in class has a counter-part Scenario in the reading, so test your understanding to see if you can find it and answer the questions posed at the end of the opening story, just before it says “Analysis”. (For best results, block your view of the information below Analysis, to test the independence of your understanding.) If you can’t complete the Analysis yourself, then review the same set of steps laid out under Analysis as we rehearsed during our lecture problem. Most of these Scenarios from the reading also have tutorial videos (labeled ‘In-Chapter Scenarios’) on noteshaper.com explaining the same steps, but you have to subscribe to view video.
- **To further strengthen your ability to conduct this type of analysis independently (and thus earn lots of points on the exam), proceed to the back of the chapter, and look for similar problems to work there.** The answers to all back-of-chapter problems are listed at the back of the textbook. If you have difficulty obtaining a correct answer, be sure to leave enough time to work with Prof. Simpson during expanded office hours before the exam, to clarify that problem before exam day. For last-minute clarifications, there are also short videos that explain the working of each and every back-of-chapter problem, available for a small fee at noteshaper.com.

**The last page of this document contains the exact contents of the formula sheet that will be included with your exam.** Once an exam formula sheet becomes available, print it out and keep it with you while you study quantitative questions. This sheet will be a tool for you to use during the exam, so the more familiar you are with its contents before the exam starts, the more effective you can be when using it during the exam.

PREPARING FOR QUALITATIVE QUESTIONS. The exam can also include important concepts or vocabulary terms from one of the assigned chapters that we didn’t necessarily discuss in class. These show up as qualitative questions, and there is typically at least one such question on any exam. Preparation tips for these sorts of questions include:

- **Many people prefer to study for the super-multiple choice questions first, in that it helps “frame” the rest of the conceptual material.** How you best strengthen your ability to recognize those sixty keywords depends on your own learning style, but consider using PowerPoint flashcards (available for free on noteshaper.com), creating your own flashcards,
creating your own exam sheets by pasting definitions, finding each keyword’s location in the reading to study its context (what else was on that page?), and/or participating in a small study group, in which you quiz one another. If you are ready to score 100% on the super multiple choice, you are already half-way ready for any qualitative question.

- Review the conceptual models we discussed in class (material that didn’t involve numerical calculations) and note the applicable pages in the reading. (To assist your studying, page ranges have been inserted throughout the skeleton notes. Expand your notes based on the discussion across those pages. Make them better than where we “left it” in class. Many people find that the act of taking careful notes helps them learn the material, so that they- ironically- don’t actually study their finished notes much, because their studying was mostly done during note preparation itself. Working in a small group and combining your insights into better notes may or may not help you as an individual… find the setting that works best for you.

DETAILED ADVICE ON ‘WHAT MIGHT BE ON THE EXAM’. To be safest, assume anything in the lectures or the textbook could be on the exam unless it is specifically listed here:

- There is no ‘project crashing problem’ on this exam, as discussed and demonstrated on pages 206-207 of the textbook. This also means you can skip part d of Scenario 31 at the end of Chapter 7, because that question part requires crashing.
- There are no questions about exact ‘incoterms’ or their abbreviations, as discussed under Terms and Conditions on pages 247-248 in the textbook.
- There are no numerical ‘tender evaluation’ problems on the exam, such as the one demonstrated on page 274 in the textbook. That also means you can skip Ramp Up #13 and #14 and Scenario #17 at the back of that chapter (Chapter 9).
- If you need a Z-table, it will be included in your exam booklet. This Z-table will be of the same format as the one used in class (Appendix B in the textbook.)
- There is no ‘EOQ with Price Breaks’ on the exam, so when studying you can skip pages 297-299 in the textbook. When practicing problems at the back of Chapter Ten, you can ignore part c of Scenario #26 and part e of Scenario #27 for this same reason.
- If you must determine a reorder point, the distribution of demand during lead time will be stated. (This is the same type of problem we worked in class, and it is the equivalent of Scenarios 3a and 3b in the textbook.) As a result, when studying you can skip, “Deriving Distributions for Demand During Lead Time” on pages 308-310 in the textbook. When practicing problems at the back of Chapter Ten, you can also ignore Ramp Up #21 and all of Scenario #30.

The exact formula sheet that will be available with the exam is attached to the back of this document.

WHAT TO EXPECT ON EXAM DAY:

EXAM VERSIONS AND ANSWER SHEETS. As stated in the course outline, this exam is closed book, closed notes. Time is also “a factor”, although there is ample time to complete the exam within two hours, given a minimum level of familiarity with the material. There are at least three different versions of this exam within each exam location. These versions are “hidden” to you (the cover pages of all exams appear identical), but the instructor has already recorded which version you are taking.
This means that your answers probably don’t match the answers of any neighboring test-taker that you might accidentally see. Be aware.

Also, your answer sheet will be included as the back page of your exam. (Note that there is no separate “bubble sheet” or “scantron sheet” that must be filled out.) When you receive the exam, remove the back page and neatly print your name and student number where indicated. This sheet will then require you to answer each of the twenty-seven standard multiple questions by “bubbling in” an answer on Grid One and select five keywords to match your five super-multiple choice definitions by bubbling in five numbers on Grid Two. Note, however, that the sheet itself will be manually graded. Because the sheet is not scanned mechanically, you are not restricted to a #2 pencil to complete it. You may use an ink pen if you so desire. You may also “cross out” answers and make other marks that would otherwise confuse a mechanical scanner, but not a human grader. Just make sure that you have indicated clearly one answer for each of the 32 questions.

**MGO 302 EXAM CALCULATORS.** A calculator will be supplied for your use during the exam. It is a Staples brand SPL-150A which looks like this:

![Staples SPL-150A Calculator](image)

As you can see in the picture, this calculator has a dark hinged cover that protects it during storage, and it opens like a book except with the hinges on the right-hand side. (The calculator will likely be closed when it is handed to you, so just open it.) The calculators will be passed out quietly after the start of the exam. Please be sure to take one, even if you don’t feel that you need it. Please return the calculator with your exam when you are finished- this is why it is important to receive one at the start of the exam, as the proctors expect one back from you at the end of the exam. Even if you have bought an identical calculator to practice with, do not bring your personal calculator to the exam.

**DICTIONARY.** As mentioned previously, personal dictionaries (such as translating dictionaries) are not permitted during MGO 302 exams. However, your exam proctors will have a copy of the paperback edition of the *Merriam-Webster English Dictionary* available at the front of the room during the exam. This is a resource available to you, should you choose to use it. The dictionary cannot leave the front of the room. If you wish to look up a word during the exam, follow this procedure:

- Detach the blank sheet intended for scrap paper at the back of your exam. Write the word you wish to look up in the dictionary on that sheet of paper.
- Bring only that sheet of paper to the dictionary table at the front of the room. Leave your exam closed at your assigned seat.
- Look up the word once the dictionary becomes available. **Please note that you may only look up one word at a time, if anyone else is waiting for the dictionary.** If you wish to look up
multiple words, you must join the back of the line each time you look up a word. Failure to respect others by abusing this rule will result in point penalties against your exam score.

While the availability of a dictionary is intended as a convenience for you, please recognize the following facts:

- The exam is one hour and fifty minutes long. This time is yours to use as you choose, but you are allowed no additional time to use the dictionary.
- You are not automatically entitled to a definition of any word in the exam. If you cannot locate an exam word in the dictionary, you can expect no further explanation of that word. Most of the specialized vocabulary of operations management such as those keywords featured under ‘super multiple choice’ will not appear in the dictionary. You are expected to be familiar with MGO 302 definitions.
- Be aware that some words have general meaning when used in casual conversation and specific meaning when used by operations managers. The *Merriam-Webster English Dictionary* may contain the general explanation of a certain word, but our textbook and our class provided you with its specific meaning to operations managers. Thus, the answer to an MGO 302 exam question about such a word will not likely be found in the *Merriam-Webster English Dictionary* definition.

Finally, be aware that exam room proctors (the people in the room administering your exam) are under strict instructions not to assist students with questions about the exam itself. This is simply to maintain fairness within a large group of exam takers: there is no way to monitor or guarantee the quality and quantity of assistance one person might have received by asking questions of one certain proctor in one particular exam room. Thus, it is not possible to insure that the same quality and quantity of assistance is available to everyone across all exam rooms. As a result, the service (assisting with exam questions) is not available to anyone. Simply do your best with each question… you can always discuss these questions with the professor during office hours at any point later in the semester.
This page contains the formula sheet that will be provided at the back of the exam, as an “aid to memory”. These formulas will appear on a back page of the exam exactly as they appear in this document:

**Some formulas from the textbook and other memory aids…**

\[
\text{Total load distance} = \sum_{i=1}^{J} \sum_{j=1}^{J} v_i d_j
\]

Cycle Time (CT) = OT/D

\[
N_{\min} = \frac{ST}{CT}
\]

Efficiency = \[
\frac{ST}{N \times CT}
\]

Path z value = (deadline - path mean)/(path standard deviation)

\[
z = \frac{x - \mu}{\sigma}
\]

Expected task time = \[
\frac{O + 4M + P}{6}
\]

Variance in task time = \[
\left(\frac{(P - O)}{6}\right)^2
\]

\[
ROP = \mu_{DDL T} + (z \times \sigma_{DDL T})
\]

\[
Q_o = \sqrt{\frac{2DS}{H}}
\]

\[
TC = \frac{D}{Q} S + \frac{Q}{2} H
\]

\[
Q_o = \sqrt{\frac{2DS}{H}} \sqrt{\frac{p}{p-d}}
\]

\[
TC = \frac{D}{Q} S + \frac{Q(p-d)}{2p} H
\]

You cannot determine the content of the exam from the expressions provided above: the fact that an expression appears here does not mean that it is necessarily needed on the exam. Likewise, the fact that a numerical expression used in class does not appear here does not necessarily mean it does not appear on the exam.

**GOOD LUCK!**