



CS 428 Midterm Review

WINTER 2023

BRUCE F. WEBSTER

- ▶ **NO CLASS THAT DAY (04/03)**
- ▶ On-line via Learning Suite – you can take it anywhere, but you will have a 3-hour limit once you start
- ▶ Test will open at 0005 on 04/03 and will close at 2359 the same day (~24 hrs)
- ▶ Open book, open note, open device – but your own work (no group tests, no asking others for help)
- ▶ **Don't use ChatGPT or other AI services**
- ▶ Questions will typically call for citations from readings and/or lectures
- ▶ Expect some questions to deal with lifecycle deliverables
- ▶ Test will be five questions, each worth 25 points
- ▶ Total test score will be 125 points (25% of your class grade)

The test itself

- ▶ *The Mythical Man-Month* (Brooks)
- ▶ *Peopleware* (DeMarco & Lister)
- ▶ *Facts and Fallacies of Software Engineering* (Glass)
- ▶ “The Five Orders of Ignorance” (Armour)
- ▶ “System-Level Heuristics” (Meier & Rechtin)
- ▶ Webster readings #1 through #6 (though #7 can be used also)
- ▶ All my in-class lectures (and accompanying slides)
- ▶ Podcasts

Class sources for the midterm

- ▶ *The Mythical Man-Month* (Brooks): Chapter 18 (“Propositions of *The Mythical Man-Month*: True or False?”)
- ▶ *Peopleware* (DeMarco & Lister): Table of contents
- ▶ *Facts & Fallacies of Software Engineering* (Glass): Table of contents
- ▶ Webster #6 (pitfalls) (<http://bfwa.com/pitfalls/>)
- ▶ Online readings list (<http://cs428.cs.byu.edu/index.php/readings-and-podcasts/>)
- ▶ All lecture slides (<http://cs428.cs.byu.edu/index.php/class-lecture-videos-slides/>)
 - ▶ Download, index for searching, have handy
- ▶ Your own notes

Great midterm study guides/cheat sheets

- ▶ **IMPORTANT: always write your answers first in a local editor, and then copy-and-paste each into Learning Suite**
- ▶ You must cite from at least one of the class sources when a citation is asked for.
- ▶ Feel free to cite to my lecture slides (but if the point is simply restating a class source, you must cite the source instead).
- ▶ Feel free to use ‘omitted’ chapters/articles if you feel them relevant.
- ▶ Form of citation varies by source, but should be sufficient to identify **specifically** what you are relying upon
- ▶ Basic score for a brief correct answer and an appropriate citation is 80% (4 of 5 points)
 - ▶ To get 5 points, you need to add some real detail to your answer, reflecting your grasp of the issue and the material

On giving answers

- ▶ For a given answer:
 - ▶ Missing: 0 points
 - ▶ Inappropriate answer and/or irrelevant citation: 1 to 2 points (my call)
 - ▶ Unspecific citation (“Brooks, chapter 2”) or correct explanation with no/wrong citation (“Brooks Law”): 3 points
 - ▶ Citation with some detail (1-2 sentences): 4 points (this is the ‘default’ score)
 - ▶ **Adding people to a late project makes it later. Brooks Law, TMMM, Chapter 2**
 - ▶ To get 5 points, you need to *explain in detail* (2 to 5 sentences) with a correct citation:
 - ▶ **Not having enough programming time is a huge risk here. The devs will likely be rushed. Peopleware says “People under time pressure don’t work better—they just work faster. In order to work faster, they may have to sacrifice the quality of the product and of their own work experience” (DeMarco, Chapter 3). When the devs don’t have the time that they need, they will feel rushed. When that happens they will make mistakes. This will inevitably lower the quality of the product as well as risk the devs quitting because they aren’t happy with working at MidCo anymore.**
- ▶ For the entire test: up to 5 points extra credit granted by me based on how impressed I was with your grasp of the materials and concepts.

Grading criteria

- ▶ You have been working for BigCorp for a year or so, mostly doing bugs fixes and feature ad-ons for an existing in-house software system, ROVER. BigCorp now would like to replace ROVER with a new, rewritten-from-scratch system (code name OTTO), which will be hosted on AWS, a cloud service that BigCorp has not used previously. They ask you for your opinion as to both the potential risks of the OTTO project, as well as any recommendations as to how to increase the likelihood of success. At this point, there are no schedule or budget constraints.

For five (5) points each, list at least two (2) major risk factors that you see with this project, as well as three (3) recommendations for how to best approach the project, with at least one citation for each.

Sample Question

Next class is 04/10 (two weeks)

- ▶ THIS SATURDAY (04/01): status report #9 due
- ▶ NEXT MONDAY (04/03): NO CLASS
 - ▶ Online midterm open all day Monday
- ▶ FOLLOWING SATURDAY (04/08)
 - ▶ Code review must be completed
 - ▶ No status report due that Saturday
- ▶ FOLLOWING MONDAY (04/10)
 - ▶ Lecture on Legal Risks for IT professionals