Name: ____ Student #:_________________

_______/50

CSC444F'06 Midterm Test

50 minutes – No Aids Allowed – 50 points total

Answer all questions in the spaces provided. Use the backs if you run out of space.
Write your name and student number on each sheet.

_______/5 1. Why is next release development more economically significant than initial release development?

Because more people work on it for a longer period of time.

_______/10 2. List and describe (in any order, in the space provided) the top 10 practices.

	name	description
1	source code control	keep all source code safe, collaborate on development
2	automated builds	consistent way of building the product
3	regression testing	automatically test as much as possible
4	defect/feature tracking	keep track of all defects and features required and being worked on
5	release planning	plan features, dates, resourcing for next release
6	specifications	write specification documents where needed
7	process control	describe the process in writing
8	architectural control	maintain control of the integrity of the architecutre
9	effort tracking	compare actual time spent to estimations for better planning
10	business planning	interface to the business via written plans

_______/5 3. What is the CMM? Name the 2nd and 3rd levels of it. What primarily distinguishes level 3 from level 2?

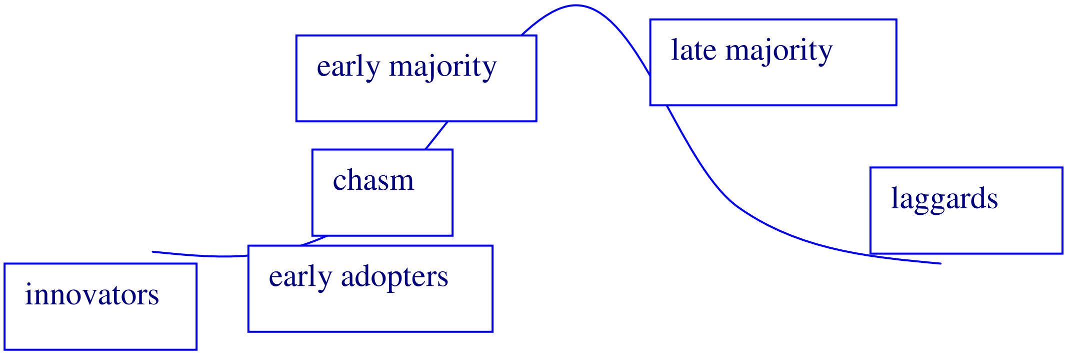
CMM stands for the Capability Maturity Model (1). It is a progression of groups of best-practices that are recommended to be applied in a given order. (1)

2nd level is “managed” (1). 3rd level is “defined” (1).

In level 3, the process is written down (1)

_______/10 4. What is Moore’s Technology Adoption Lifecycle? Sketch and label it. Show the chasm. Why is the chasm important?

It shows the adoption of a given technology over time. (2)
It is a graph of time along the bottom versus the percentage of companies that have adopted a particular technology (1)



(1) shape of curve (1) laggards
(1) innovators and/or early adopters (1) early majority and/or late majority
(1) The chasm exists between the early adopter period and the early majority period.

It is important because a software company must change the way it operates before and after the chasm, and many companies are unable to make the transition. (2) OR
The first company across the chasm can take a leadership position in the market (2)

_______/5 5. In the release planning methodology, which phase and which type of resources are explicitly planned? Why these? How are the other phases and resources accounted for?

We explicitly plan the coding phase (1) and the number of coders (1). Other phases (1) and resources (1) are planned for using ratios to the coding phase and ressources.

Coding is planned explicitly because it is the most concrete. You are not done with the feature set until the features are 100% code complete. Not so certain when you are “done” testing or “done” documenting. (1)

_______/5 6. If a company discovers that a release is significantly behind schedule, what practical courses of action are available?

Before DCUT:

- extend the GA date
- drop features
- reduce the scope of features
- improve the work factors
- decrease vacation time taken
- add coders (not usually practical unless they know the code already)

After DCUT

- extend the date (MUST SAY THIS ONE)
- reduce testing time, but this may have an unacceptable negative impact on quality

1 point for any of the above (with qualifiers)

_______/5 7. In the release planning methodology define the work factor, *w* is. Be precise in describing exactly how it would be measured.

The work factor, w, is a conversion factor that converts working days into effective coder days for a given coder. (1)

Effective coder days are defined as the number of hours of uninterrupted-equivalent (1) time a coder has spent coding new features into the next release of the product in question (1) divided by 8 (which is a nominal value chosen to convert hours into days (1).

One can measure w by getting a coder to add up the total uninterrupted hour-equivalents working on coding new features into the release over the entire coding phase, and then dividing by 8*di, where di is the number of days they were expected to work (1)

_______/5 8. In the release planning methodology, what are the units used for estimating feature sizes? What three independent factors go into coming up with a feature sizing?

Feature sizing is estimated in units of effective coder days (see above) (1)
This takes into account three underlying factors:

1) an estimate of the inherent size of the work item (1)

2) a guess as to which coder will be doing the work (1)

3) an estimate as to how productive that coder will be (1) doing that kind of work. (1)