



▶ POLITECNICO DI MILANO

Dipartimento di  
Elettronica e Informazione

# Midterm Review Preview

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<http://home.dei.polimi.it/dellavalle>

- 11 questions
- most 2-5 points each

- Projects, programs, products
- McConnell's four dimensions
- Classic mistakes
  - Know a set of these
  - Remember by "type"
    - People, process, product, technology related
    - see <http://www.stevemcconnell.com/rdenum.htm>

- Trade-offs & constraints
  - The triangle
  - Cost, Time, Scope
- PMI processes and knowledge areas
  - Process groups
  - Which knowledge areas are need for which process?
    - [http://emanueledellavalle.org/slides/P&MSP2010\\_02\\_Processes-Organization.pdf](http://emanueledellavalle.org/slides/P&MSP2010_02_Processes-Organization.pdf)
      - Slide 25
- Organizational structures
  - Advantages & disadvantages of each form
  - Role of PM in each
    - [http://emanueledellavalle.org/slides/P&MSP2010\\_02\\_Processes-Organization.pdf](http://emanueledellavalle.org/slides/P&MSP2010_02_Processes-Organization.pdf)
      - Slide 33

- Classic project phases
  - [http://emanueledellavalle.org/slides/P&MSP2010\\_03\\_Planning.pdf](http://emanueledellavalle.org/slides/P&MSP2010_03_Planning.pdf)
    - Slide 5
  
- Key documents at each phase
  - SOW, Charter
  - Project Management Plan
  - Identify key planning documents
  - Potential Deliverables by Phase
  - [http://emanueledellavalle.org/slides/P&MSP2010\\_03\\_Planning.pdf](http://emanueledellavalle.org/slides/P&MSP2010_03_Planning.pdf)
    - Slide 9

- Methodologies
  - Trade-offs
  - Basic Pros & Cons
- Given a specific scenario decide what SDLC is most appropriate
  - [http://emanueledellavalle.org/slides/P&MSP2010\\_03\\_Planning.pdf](http://emanueledellavalle.org/slides/P&MSP2010_03_Planning.pdf)
    - Slide 52
- Waterfall process
- Challenges of each phase
- Requirements
  - Criticality
  - Issues
  - Functional & Non-functional

- Four primary steps
  - Define work to be done (WBS)
  - Estimate size
  - Estimate effort
  - Build schedule

- Types: Process, product, hybrid
- Formats: Outline or graphical org chart
- Shows hierarchical task relationships
- High-level version does not show dependencies or durations
- What hurts most is what's missing
- Becomes input to many things, esp. schedule

- Size Estimation Techniques
  - Bottom-up vs. Top-down
  - Analogy
  - Expert Judgment
  - Parametric (not the formulas, just the gist)
    - Function Points
    - LOC
  
- Schedule presentation techniques
  - Q3, 6-8 months, best/worst case

- Dependencies
  - Relationships: FS, SS, FF, SF
  - Lag and Lead time
  - Free and Total Slack
  - Types: Mandatory, etc.
- Network Diagrams and Bar Charts
  - CPM
  - PERT
  - GANTT
- Schedule Optimization Techniques

- What is the problem with measuring progress with Man-Month?
- Why is software project disaster so common?
  - [http://emanueledellavalle.org/slides/P&MSP2010\\_05\\_Scheduling.pdf](http://emanueledellavalle.org/slides/P&MSP2010_05_Scheduling.pdf)
    - Slide 61
- Communication Overhead

- Wherever I presented you say 5 types of 'things'
  - Like estimation techniques or methodologies
- I may ask 'Tell me two approaches to X'
- Especially interested in the pros & cons
- You did your Class slides readings, yes?

- Ambiguous terminology
  - Tasks vs. Activities vs. Work Packages
  - WBS: does it start at 0 or 1
  - Details of Function Point calculation method

# Questions?

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