JACOBS UNIVERSITY

Software Process Models

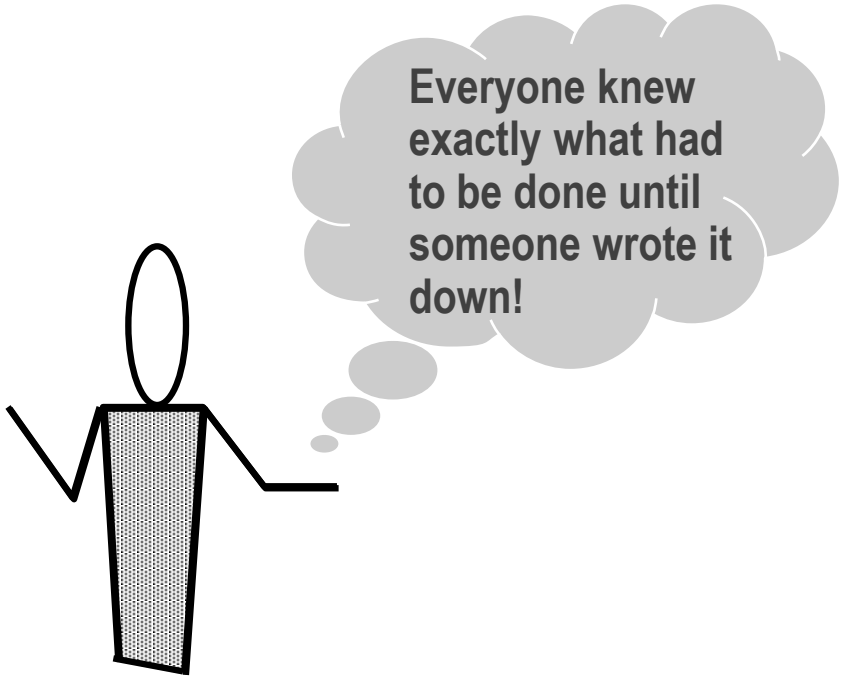
Sommerville, Chapters 4, 17
Pressman

Instructor: Peter Baumann

email: p.baumann@jacobs-university.de

tel: -3178

office: room 88, Research 1



Roadmap

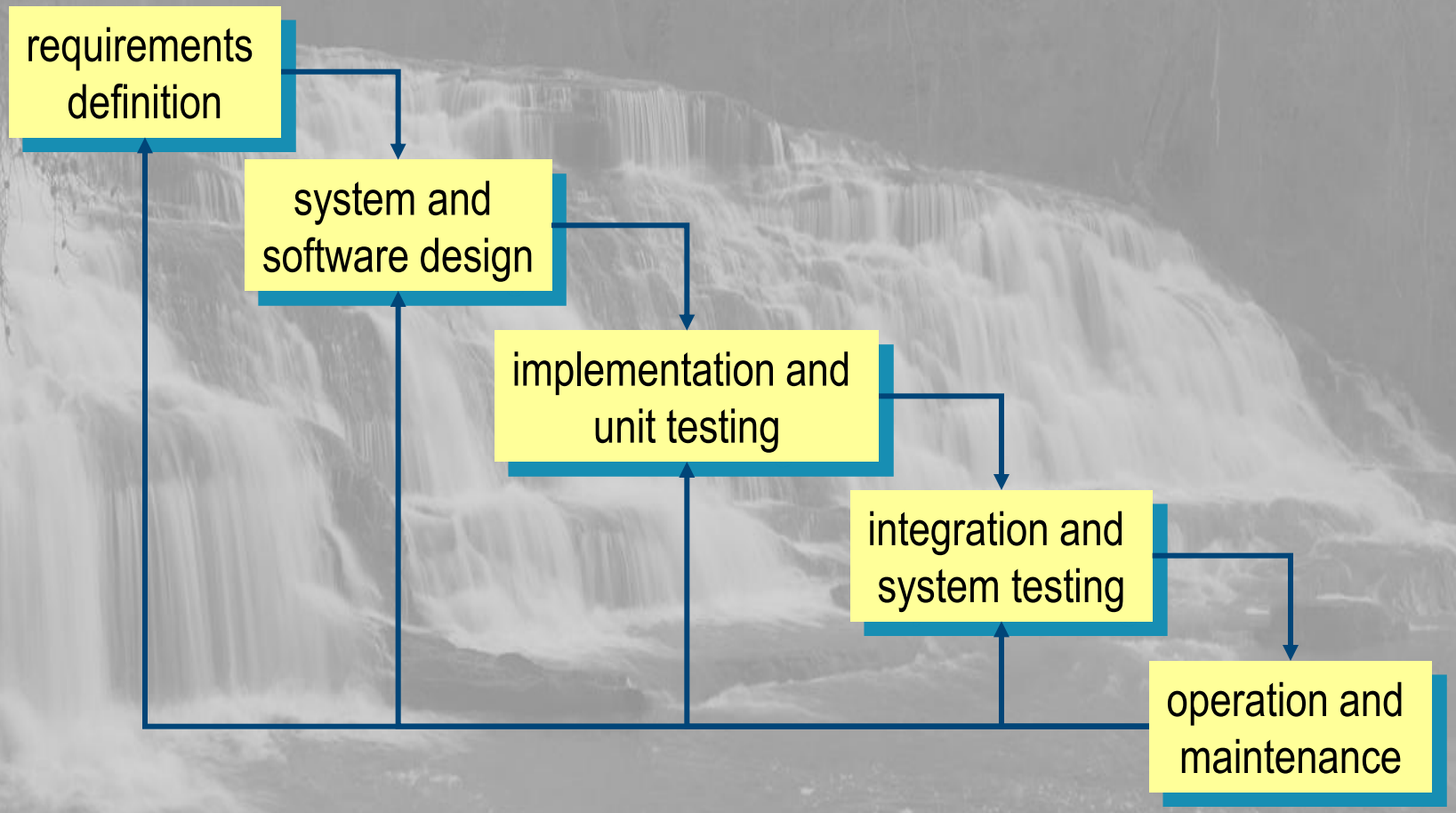
JACOBS UNIVERSITY

- SE process management
  - Waterfall model
  - Incremental methods
  - Agile/XP methods
  - Iterative / spiral methods (eg, RUP)
  - Evolutionary methods
  - V-Model
- CMMI

Note:
deviates somewhat from Sommerville's classification, relies on Kal Toth (see later)

Waterfall Model

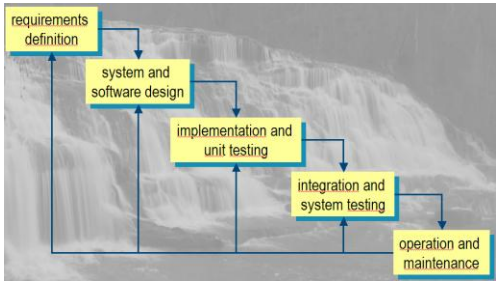
JACOBS UNIVERSITY



Waterfall Model: Appraisal

JACOBS UNIVERSITY

- Partitioning into distinct stages
  → difficult to accommodate change after process is underway
  → Inflexible
  - One phase has to be complete before moving onto next phase



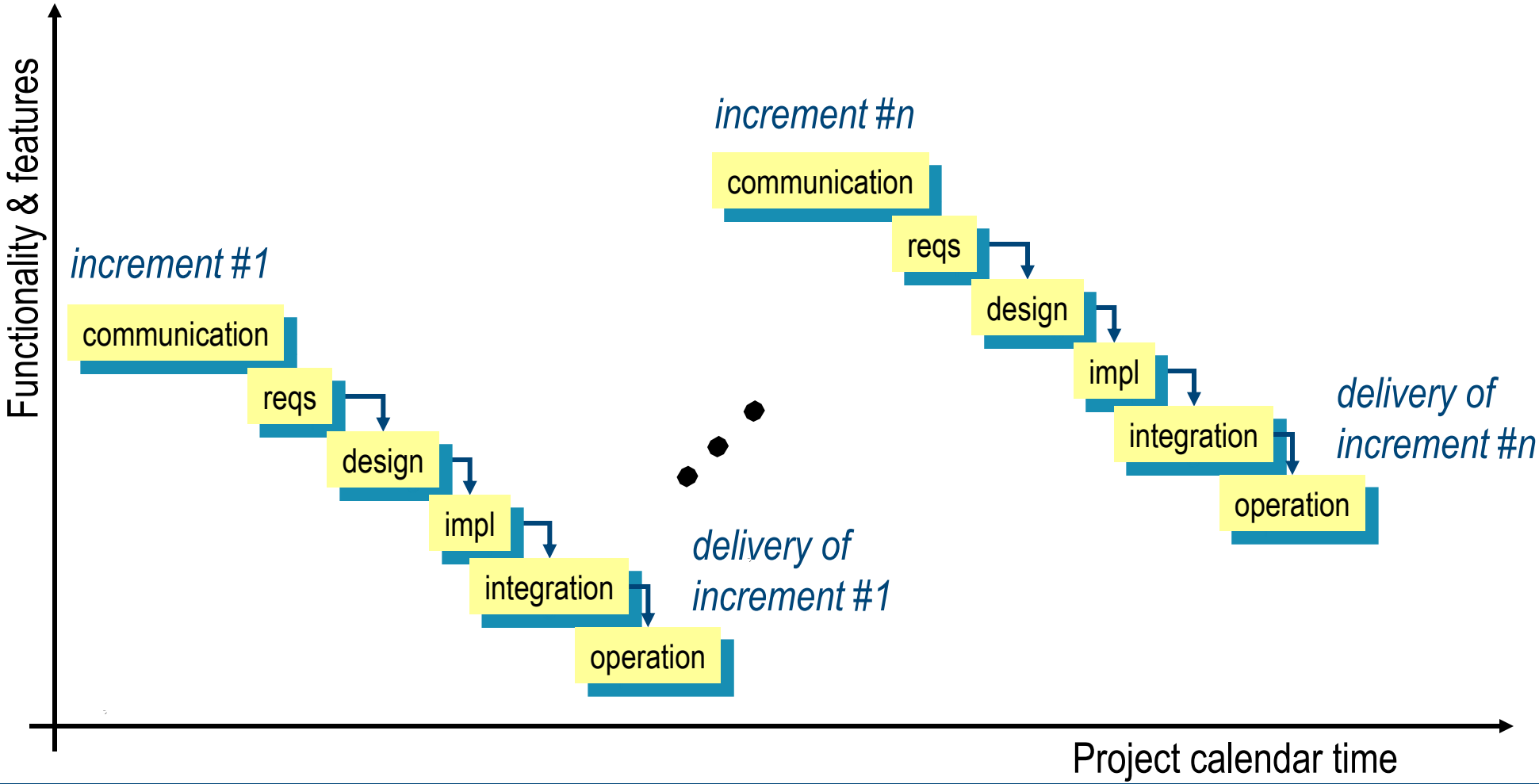
- Few business systems have stable requirements
  - changing customer requirements
  - Increased domain understanding
  - Unforeseen technical difficulties
- only appropriate when requirements well-understood and fairly stable
- *mostly used for large systems engineering projects (?)*
  where system is developed at several sites

Roadmap

JACOBS UNIVERSITY

- SE process management
  - Waterfall model
  - Incremental methods
  - Agile/XP methods
  - Iterative / spiral methods (eg, RUP)
  - Evolutionary methods
  - V-Model
- CMMI

The Incremental Model



Incremental Delivery

JACOBS UNIVERSITY

- development & delivery broken down into increments
  - each increment delivering part of the required functionality
- User requirements are prioritised
  - highest priority requirements included in early increments
- Once development of increment is started, requirements are frozen
  - requirements for later increments can continue to evolve

Incremental Development: Appraisal

JACOBS UNIVERSITY

- Customer value delivered with each increment
  - system functionality is available earlier
- Early increments act as a prototype
  - help elicit requirements for later increments
- Lower risk of overall project failure
- Highest priority system services tend to receive most testing
  - Why?