



# Course Planning, Part 2

Don Porter

Portions courtesy Fred Brooks, Jim Anderson, Samarjit Chakraborty



# Course Planning

- First, **context**: We can talk about planning w.r.t.
  - the course you teach at UNC (less interesting),
  - or a course you may teach in the “real world” (more interesting). Two possibilities:
    - a **teaching college**;
    - a **research university**.
  - What are your expectations regarding **teaching load**?
  - How long do you think it takes to **prep a new class**?



# Course Planning

- How to determine how much can be covered in a semester?
  - Look at syllabi created by people you trust.
  - Search the web and see what's covered at other schools.
  - Guess.
    - I can guess pretty accurately based on slide count.
  - Keep records.
    - The first time you teach a class, you may not get it completely right.



# Syllabus

- Forces you to think about the practicalities of the course, it's a contract
- How much time – lectures, homework, studying ...
- Contents – schedule, special rules, evaluation criteria
- More details, the better it is
- Should help students understand what is expected from them

UNC prescribes a lot of content



# Course Policies

- Parenting 101: You get the behavior you reward
- So, what behavior do you want?
  - Trying again on an assignment / learning from mistakes
    - Gary Bishop would give half credit on a resubmitted assignment for all missed questions
  - Self-management of minor scheduling conflicts
    - I give 72 late hours with no penalty, raises threshold of issues I handle
  - Students helping other students?
    - Group assignments: (effective) bonus for working alone or not?



# Textbook and Reading Materials

- Textbook or not? What is the course?
- Compile chapters from multiple textbooks
- Cost of the textbook
  - Consider older editions or delta in a newer revision
- Assign reading materials judiciously



# Course Planning

- **How many exams?**
  - One midterm is too stressful.
  - Good to have first midterm by drop day.
  - Avoid major religious holidays (and for graduate courses, perhaps major conference deadlines too).
    - Specifically consider holy days of obligation
- **Make a plan in advance for missed exams**
  - My strategy:
    - I usually ask for all conflicts by 2<sup>nd</sup> week of the class, possibly move on a big boo boo
    - Ask students to make up exam early (why?)
    - If a student doesn't come at all, average other exams (why?)



## Course Planning

- Other issues:
  - What can you assume about **student background**?
    - Do you teach to the A students, the B students, the C students,... ?
  - What are your **goals**?
    - How do your goals affect planning?
  - How does your course **fit** within the broader course sequence?
    - Why would this be an issue?
    - Advice: Teach the prereq course to your “usual” course
  - Should a project be required?
  - **Powerpoint** or **white board**?
  - Record lectures / whiteboard contents or not?



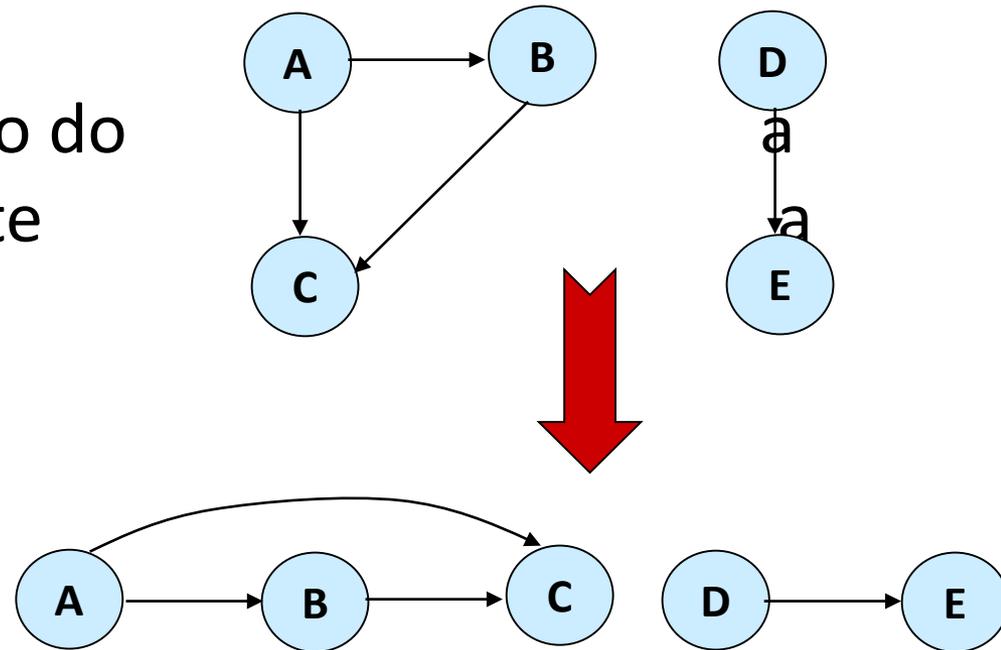
# A Basic Planning Model

*From: Teaching at Carolina - A Handbook for Instructors*

- What is the place of this course in the curriculum?
- What kinds of skills and levels of knowledge can you expect of students?
  - Teaching at UNC is probably different from both MIT and App. State.
- How do you want students to be “different” by the end of the class?
  - “Research has shown that factual content beyond the final exam is ... lost within a few weeks.”
- What themes, fundamental principles, or synthesizing ideas does the course involve?
- What are the major instructional units which the course naturally divides?
- What kinds of learning experiences seems appropriate for students to master the course goals and objectives?
- How will you evaluate student achievement?

# Topological Sort

- Different topics invariably related by dependencies on some way.
- Think hard about how to do **topological sort** to create linear ordering.
- Think hard about the **rate at which complexity should be exposed**.





# Controversial Issues

- Topics that bring up:
  - Competing values and interests, and/or,
  - Strong emotional reactions
- In CS, I usually see two families of controversial issues:
  - Technical controversy
    - Is fork() really a good idea?
  - Social controversy / current issues
    - What obligation do CS researchers have to address climate change?

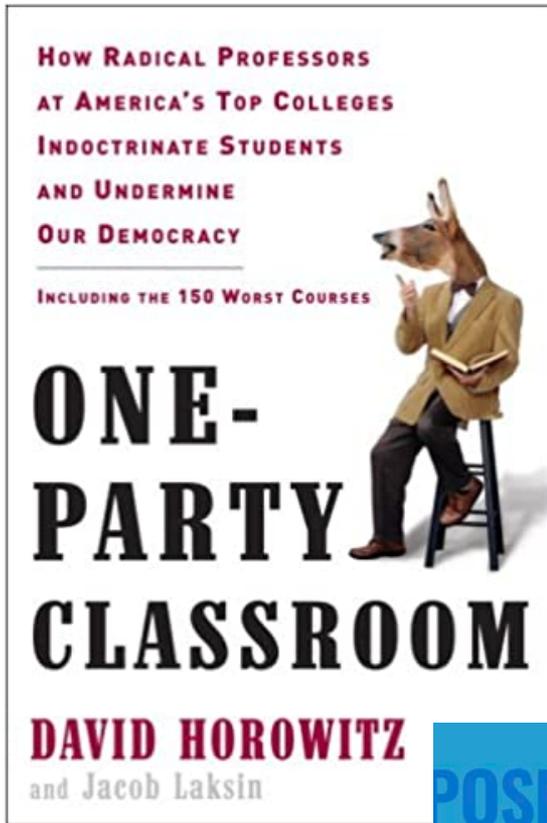


# Why cover a controversial issue?

- It is germane to the course
  - Hard to teach an AI course without talking about the impact of ChatGPT on education and work
  - Ethics of offensive security, responsible disclosure
- To teach students to think and argue
  - C.f., debate teams
  - I routinely crap on Unix to break through the “halo effect”
- Professional development
  - We would do our students a disservice not to discuss DEI
  - How to navigate toxic culture?
    - e.g., Linux kernel mailing list
  - How to effectively field non-friendly questions?



# Why *not* cover a controversial issue?





# Why (else) *not* cover a controversial issue?

- It may undermine the learning objectives! How?
- Students may not be on an even footing to disagree
  - Minority opinion among students
  - Power dynamics
- Students may perceive their opinion affects grade
- Your IQ is lowered when you are upset/stressed
  - By analogy: we let students take exams in a quiet room
- Silence != assent

*Proceed with caution*



# Many bad role models for disagreement





# Advice 1: Plan

- Have a crisp idea what you want to cover/ NOT cover
- How are to bring it up?
- How are to ensure civil dialog/ what are the ground rules?
  - Note that most students don't have a lot of experience with conflict resolution that doesn't involve an authority figure
- How to end discussion if things get messy?
  - Consider timing: near the end of a lecture period



# Moderating Student Discussion

- Allow students to share their own perspectives
- Acknowledge societal shortcomings and the need for improvement
- Ensure civil behavior, no personal attacks
- Try to stay rooted to the topic at hand
- Link arguments to evidence and logic whenever possible



# Social Controversy

- Sincere question: Is it appropriate to comment on social issues / current topics?
  - “Processing” the 2016 or 2020 election results?
  - Google firing Timnit Gebru?
  - Nikole-Hannah Jones situation at UNC?



## Advice 2: Tread Lightly on Social Issues

- Choose your battles
  - I often avoid giving too many personal details/opinions
- Interrogate your motives
  - Am I just looking to ventilate in a friendly environment?
- Signaling importance matters
  - I look for opportunities to highlight DEI issues, *briefly*
- Explicit delimiters around “test content” and “meta content”
- Only open discussion if you want other opinions
- Choose your words carefully:
  - Shorter excerpts may sound worse without context



## Advice 3: Be prepared to argue both sides

- My graduate architecture course involved many technical debates
- When discussion got too unbalanced, instructor jumped in and argued the other position, vociferously
  - Even against instructor's papers or prior positions!
  - Trying to predict instructor's bias was a losing strategy
- Heaped praise on lone dissenters

*Again, you get the behavior you reward!*