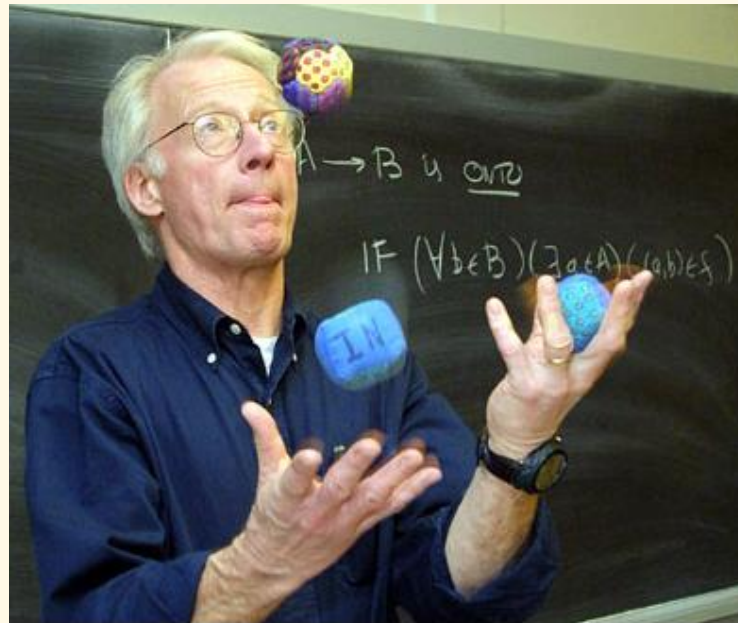


Planning Courses at WPI



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Workshop Plan

GOAL: Leave with resources and specific ideas (and likely questions) for planning your first course at WPI.

10:15-10:45 **WPI characteristics, a model for course design, course design examples**

10:45-11:00 **Initial Q&A**

11:00-11:30 **Discussion in disciplinary groups**

11:30-12:00 **Sanity & time savers, resources for next steps**

WPI Context: Undergraduate Courses

- **7 week terms (generally 28 lecture hours [+ lab])**
 - Regular load = 1 “unit” academic credit = 3 courses (1/3 unit each)
- **Students responsible for learning beyond class**
 - Official expectations: 17 hours per class per week, equivalent to semester course
 - ~3 hours outside class for every hour inside
 - Does not mean students like (or are good at) it!
- **Projects and hands-on assignments**
- **No required courses or prerequisites**
- **No final exam period**
- **Grading system: A/B/C/NR, I**

What Undergraduates Expect

- Short grading turnaround (days, not weeks)
- Electronic communication (email/Blackboard)
- Fair notice of deadlines and modifications
 - Post exam dates and major deadlines at start of the course
- Clear statements of what's expected; grading weights
 - Students sometimes ask for too much here
- May view syllabus as “contract”
 - Include “subject to change” language

*Be clear
about your
response
timeframe*

WPI Context: Graduate Courses

- **Most scheduled 3 hours/night, 1 night/week, 14 weeks**
 - Accommodates part-time students
 - Hard for students, instructor to focus after 2 hours!
 - **Distance and blended learning formats in some programs**
 - **Expectation: 1 credit = 56 effort hours**
 - **Part-time students:**
 - Many need “B” grade or better for employer reimbursement
 - Often can add “real-life” experience to discussion
 - **WPI transitioning towards more full-time graduate students**
 - Part-time, employed students prefer modest homework
 - Full-time students often need/prefer more challenge
- Conflict!*
- **Grading system: A/B/C/D/F, I**

A Model for Course Design

1. Identify desired results
(STUDENT LEARNING GOALS, OUTCOMES)

2. Determine acceptable evidence of learning (ASSESSMENT MEASURES)

3. Plan instruction
(TEACHING & LEARNING ACTIVITIES)

**Consider
situational
factors**

Planning Questions

1. Situational factors

What does the course need to support? (later courses, projects, accreditation...) What are my students likely to be interested in, motivated by? What are MY constraints?

2. Learning goals

What do I hope students will have learned, that will still be there and have value, several years after the course is over? Which concepts, learning outcomes, skills (< 6) are most essential?

3. Evaluation and grading measures

What should students do to show that they achieve the goals?

4. Teaching/learning activities

What will students do inside class, outside class? In class, what value will I add over the readings? How will they practice, build up to any high-stakes evaluation measures?

Example: 20th-Century Revolutions

- New faculty member, previously taught similar course as a semester *survey* to mostly history majors
- At WPI: mixed group of up to 50

Problem: *How to achieve both breadth and depth in 7 weeks?*

Solution:

- Class-time focus: China as revolutionary *model*
 - analysis and extrapolation skills
- Outside of class: Small group project work addressing other 20th-century revolutions
 - Group presentation, group paper, poster, newspaper
- Individual papers and exams

Example: Annual Network Plan Competition (MIS 3740)

- **Motivation: Large variation in student knowledge**
 - Need to keep students motivated
 - Meshes well with WPI's project orientation
 - Meet learning objectives of AACSB
- **Application: Real world**
 - Cisco/Juniper sponsor each year (top networking companies)
 - Judges from top companies in field, guest speakers
 - RFP 1st day
 - Teams compete, videotape presentations & judges feedback
- **Results: 10 years of success**
 - Students enjoy it—good reviews
 - Learn beyond the book
 - Students learn to teach others, students learning from students
 - Jobs, job interviews, & contacts
 - Longest running course-based competition in School of Business



Example: Microelectronic Circuits

ECE 3204: Setting expectations on Day 1

- **Administrative information**
 - Policies, academic honesty, help session hours
- **Orientation: “You Are Here” in ECE course flow**
 - Expected background (first homework due in 1 or 2 class meetings)
 - Future paths after this course
- **Psychology**
 - Self-examination; strategy for success
- **Motivating technical example**
 - End-to-end overview of digital audio system
 - Some technical content from background courses

Disciplinary Discussion Groups

1. Discussion-based and/or writing-intensive courses (e.g., Humanities & Arts, Social Sciences)
2. Business courses
3. Introductory science courses (e.g., Calculus, Physics)
4. Higher level science/engineering courses

What questions and concerns are uppermost in your mind about teaching your first course?

Policies that May Reduce Headaches

- How will I handle late assignments? Students who miss assignments or exams due to illness?
- What combination of individual work and group work is appropriate in this course?
- What policies am I comfortable enforcing?
 - Will I fail (NR) a student for copying one solution?
- Will students be able to do extra work to raise their grade?
- Can students opt for NRs?

Instructor discretion!

See example syllabi for policy ideas and variations.

Additional Sanity Savers

- **Communicate with students early and often**
 - What you expect of them (e.g., classroom decorum)
 - What they can expect of you (e.g., when you read/respond to email)
 - Why you are doing what you are doing (purposes)
- **Value your time!**
 - Don't try to accommodate all student requests (make-up exams, sample exams with solutions)
- **Put course deadlines on your own calendar**
 - Mid-term comes quickly in 7-week terms!
- **Accept imperfection early on**
 - Expect to refine course over time
 - Don't panic about tenure and early course evaluations

Time Savers

- **Prepare solution for “some” assignments**
 - Give one example early on to show formatting/detail expectations
 - Encourage students to come review others in office hours
- **Fully utilize any TAs or other assistants assigned to you**
- **If teaching a large class, prepare some alternate exam questions for use in make-up exams (or save for next year)**

Resources for Continuing the Conversation...

- **New Faculty Mentoring Program**
 - WPI's culture of academic freedom in course design
 - Understanding what's "normal" across departments
 - ... and much more!
- **Colleagues: ask to review syllabi, sit in on classes**
- **Morgan Teaching & Learning Center: individual consultations (cdemetry@wpi), Food for Thought seminars and workshops**
- **Writing Center (designing writing assignments, giving feedback on writing, writing tutors)**
- **Academic Technology Center (for technology assistance and blended/distance learning)**
- **Internal grants for course design**