ON BEING

A SUCCESSFUL GRADUATE STUDENT

Bruce Schmeiser

School of Industrial Engineering
Purdue University
SIMULTANEOUS INITIAL CHALLENGES

Maintain personal health.
Endure being without family and friends.
Establish & maintain interpersonal relationships.
Decide on a career and lifestyle.
Establish future goals.
Manage time.
Get good grades.
Determine research topic and advisor.
DEFINING "A SUCCESSFUL GRADUATE STUDENT"

Get the degree:
  master’s degree.
  ph.d.

Get the job:
  personal satisfaction.
  financial security.

Make a difference:
  your field.
  your society.
PLANNING

Know the rules. Ask for exceptions.
The formal plan of study.
Address weaknesses early:
    computing.
    mathematics.
    communication.
Masters thesis option.
Breadth versus depth.
Choosing courses.
Choosing instructors.
Begin semester with a extra course.
Get advice:
    other students.
    faculty members.
Financial support: TA, RA (inside or outside)
HOW TO TAKE COURSES

Use a 3-ring notebook.
Keep a calendar.
Ask questions.
Teach it.
Integrate knowledge.

BEYOND COURSES

Understand:
Graduate education ≠ undergraduate education.
Attend seminars, short courses.
Meet other students.
Meet the professors.
Read the annual reports (e.g., School of IE).
Practice
writing.
speaking.
Join
local organizations.
national organizations.
THESIS RESEARCH

What Research Is Not:
  Research ≠ answering questions.
  Research ≠ publishing.
  Research ≠ attracting money.

Components of Thesis Research:
  Find an issue.
    Important (to whom?)
    Interesting (to you).
    Tractable (for you). A hook.
    Richness (for safety).
  Find advice (e.g., professors, students, practitioners)
  Define problems (Problem statement ≠ analysis method).
    Practitioner’s problem (and a real-world example?).
    Researcher’s problem (and subproblems).
    For both, define criteria for measuring solution quality.
    For both, define the "world" in which the problem lives.
  Literature Survey ≠ annotated bibliography.
  Data Analysis.
    Always graphical.
    Test statistical hypotheses only to satisfy others
    (and never with Monte Carlo simulation data).
  Tell others what you have learned.
    Spend time stating the problem(s) (example?).
    State general method of attack.
    State conclusions. Be precise.
    Everything else is a detail.
Have Fun.