

Research Methods

CSCI 8901:
Being Productive

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GWU

Composers

How long after one becomes interested in music is it that one becomes world class?

- John Hayes, psychologist

Studied 500 “masterworks” pieces by 76 composers

When did they produce their world class music?

Composers

How long after one becomes interested in music is it that one becomes world class?

- John Hayes, psychologist

Studied 500 “masterworks” pieces by 76 composers

When did they produce their world class music?

All but 3 of the 500 happened after 10 years of practice

The Road to Excellence

It takes 10,000 hours to master a skill

- (maybe)

That's 5 years of 40 hour weeks focused full time on being a researcher

About the time of a PhD...

Deliberate Practice

How to practice effectively?

Practice that is purposeful and systematic

- Not just repetition

You need to get feedback on your work

- This can come from yourself if you are able to be objective!

You need to adjust what you do to ensure you are always challenged

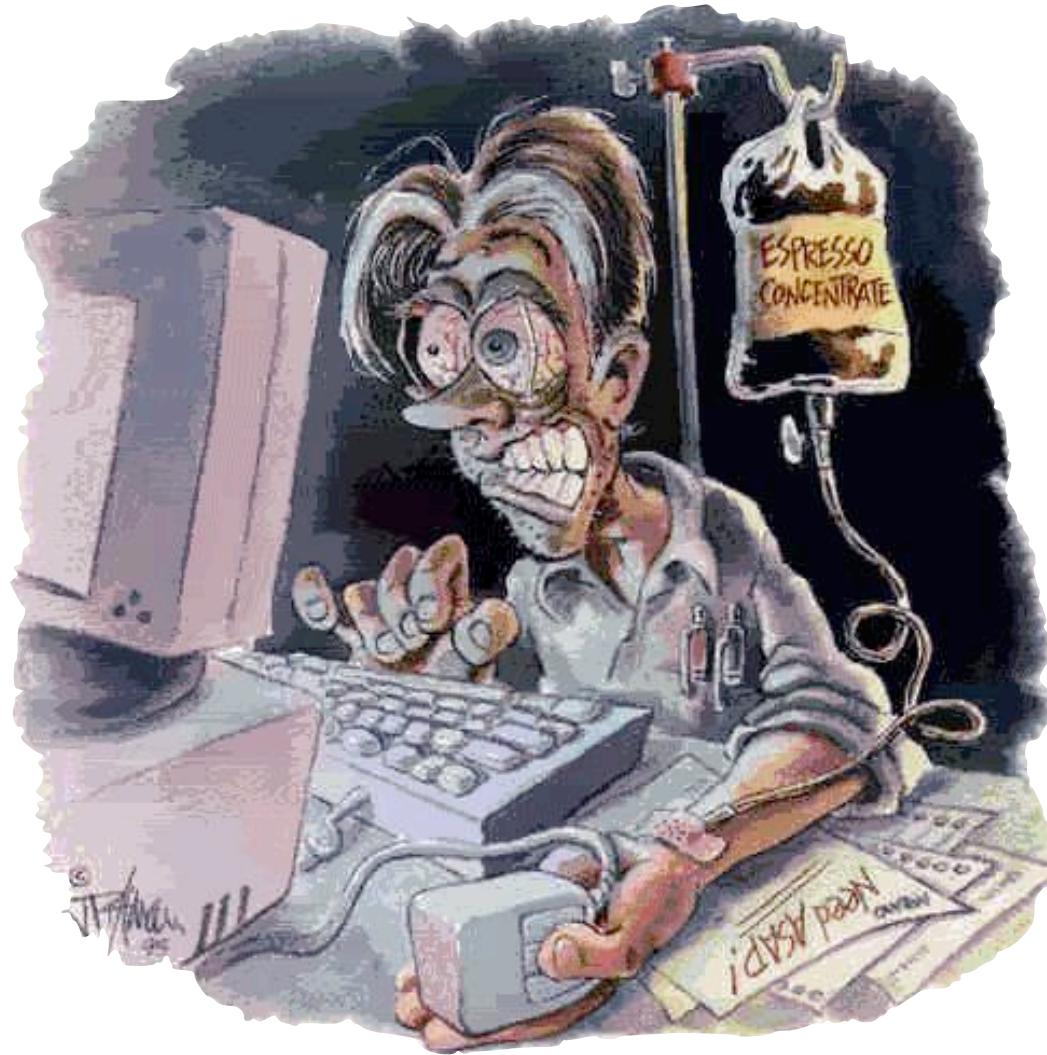
- Set targets for what you want to accomplish and see if you meet them

How to put in your 10,000 hours?

Lots of distractions!

Material adapted from Jensen's Research methods course

Do it all



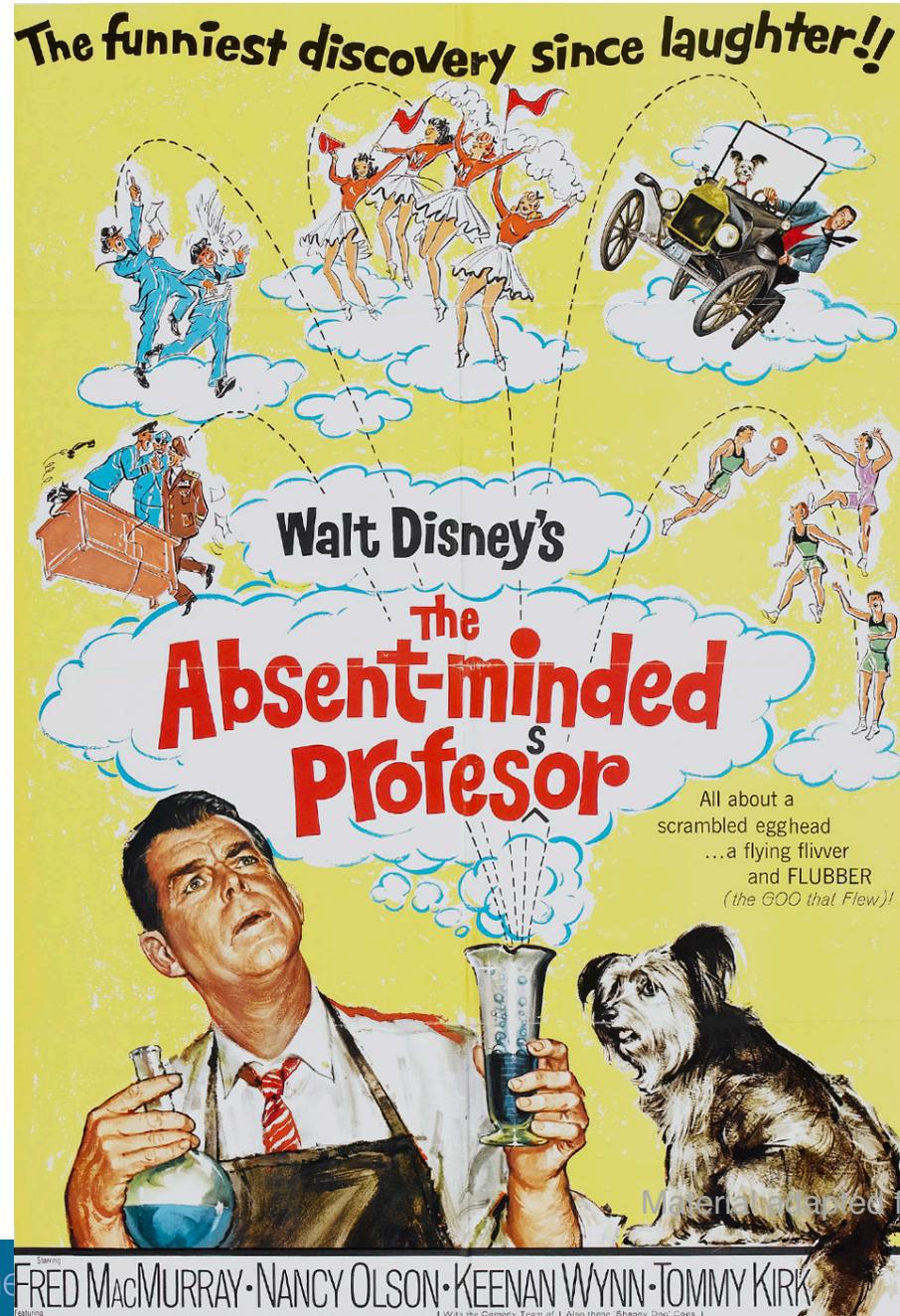
Material adapted from Jensen's Research methods course

Do it now



Material adapted from Jensen's Research methods course

Do what you want



Material adapted from Jensen's Research methods course

Are these effective?

Do it all: Spend more hours than anyone else

Do it now: Focus on the immediate deadlines

Do what you want: Arbitrarily pick and choose, ignoring the parts you don't care about

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Are these effective?

Do it all: Spend more hours than anyone else

- There isn't enough time to do everything

Do it now: Focus on the immediate deadlines

- Most urgent things are not necessarily the most important

Do what you want: Pick and choose, ignoring the parts you don't care about

- Too selfish; disrupts your collaborations and other relationships

Material adapted from Jensen's Research methods course

Time Management is...

Making progress

Making progress on the right things

Making progress on the right things as efficiently as possible

Making progress on the right things as efficiently as possible and feeling good about it

What do you do?

Strategies

Covey's Priority Matrix

Getting Things Done

- Manageable tasks

Pomodoro

- Timed work

Don't Break the Chain

- Continuous work

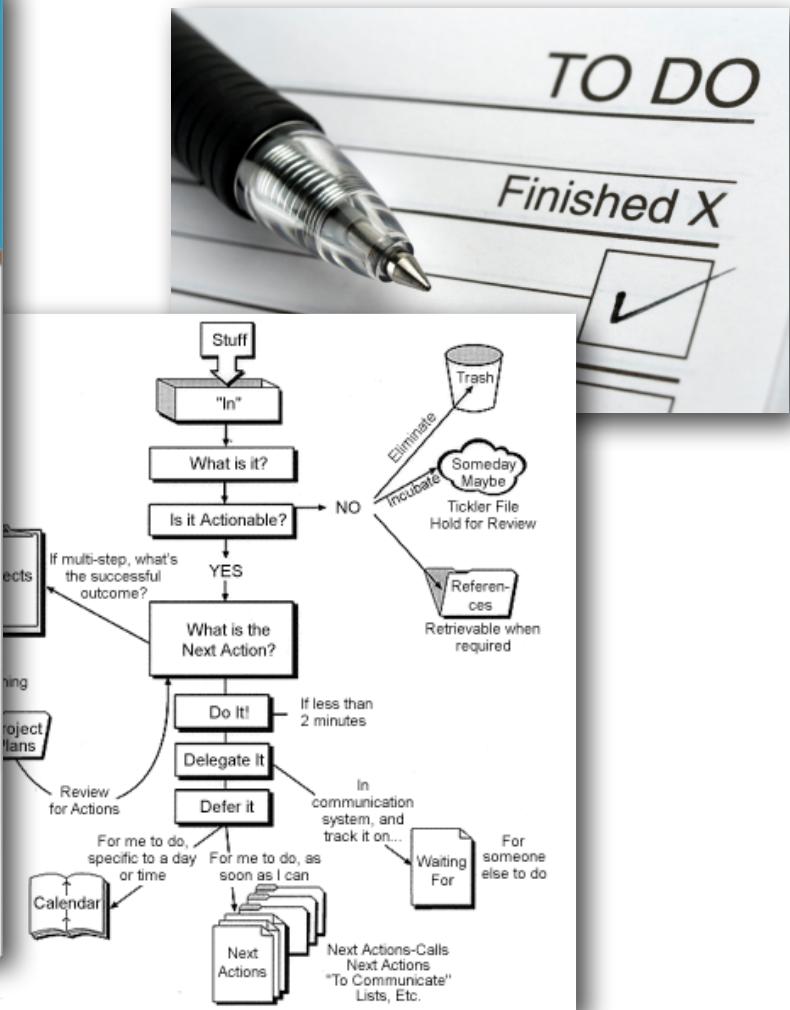
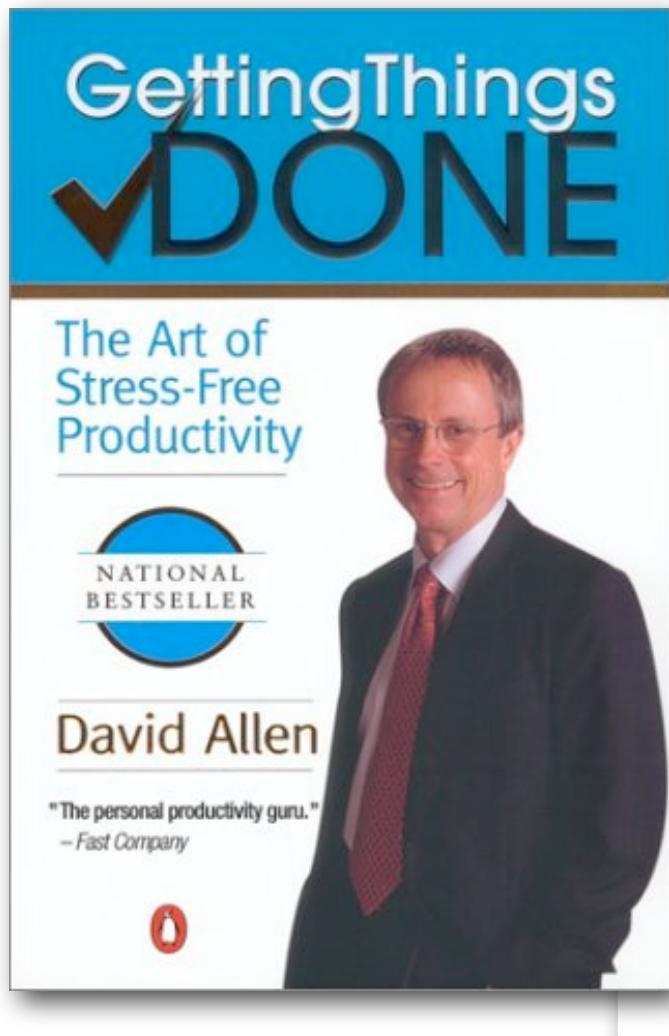
Eat the Frog

- Hardest step first

	URGENT	NOT URGENT
IMPORTANT	I ACTIVITIES: Crises, pressing problems, deadline-driven projects	II ACTIVITIES: Exercise, long-range planning, preparation, preventive maintenance, relationship building, personal growth activities, some leisure
NOT IMPORTANT	III ACTIVITIES: Interruptions, some calls, some mail, some reports, some meetings	IV ACTIVITIES: Trivia, busy work, some mail, some calls, time wasters, some pleasant activities



Getting Things Done



Material adapted from Jensen's Research methods course

GTD Key Ideas

Empty your brain

- Don't use your brain to store upcoming tasks or worries about the future
- Your brain should focus on the work for your current task and next step

Work from zero

- Don't let tasks build up; clear your “inbox”
- This means defining manageable tasks and deadlines

Projects

- Group your tasks into categories and define what is needed to succeed in each area

GTD Key Ideas

Next Actions, not to dos

- Specify what actions you need to take, not a list of high level tasks

Periodic Review

- Evaluate how you are doing and adjust the system as needed

GTD Goals

Not to get more things done

Instead, focus on making good choices about what to do next!

- Identify the work you need to do
- Categorize and prioritize it
- Decide what to focus on
- Periodically evaluate and adjust course

Relieve mental stress and brain space

- Everything important is stored somewhere else
-

GTD: Is this perfect?

Probably not...

Which approach is right for you?

Maybe all of them?

I follow productivity fads

- An approach I use now won't work for me forever

Some approaches/tools I've used:

- Expensive Moleskine notebooks
- GTD
- Pomodoro
- Pivotal Tracker
- Evernote
- Remember the Milk, Wunderlist, Todoist

My Current Approach

Dropbox Paper

- Allows easy mix of text notes and todos
- Bulleted notes about each day
- Weekly todo lists with key tasks to focus on

Benefits:

- Everything in one place
- Memory

September 25, 2018

- Wei AT&T
 - need to validate testbed is working - use simpler forwarder than LB
 - need to ensure packets aren't too large
 - TREX was adding VLAN headers - this may have caused traffic to be dropped by cloud lab switch?
 - Test with min size UDP packet PCAPs
 - need to understand where traffic is being dropped
 - running out of flow table space
 - simple way to do flow deletion - delete flow once it has received X packets, where X is the size of the PCAP
 - if only using 5,000 con/sec it should last many minutes with 60million flow entries
 - why is it running out in seconds?
 - BESS isn't making time stamps right
 - Maybe b/c need to add VXLAN header to offset?
 - USAA
 - Cancelled independent assessor
 - Paul Davis Restoration - in EC
 - will contact us within 24 hours



September 24, 2018

- KK
 - Michael should look at CoNext submission
 -

Weeklies

- 2113 quiz review
- 2113 data structures module
- 2113 data structures project
- 6421 add containers to slides
- CSR+NeTS thing
- more EOS planning

Set Goals

What do you want to accomplish...

- in the next 7 days?
- by the end of the semester?
- by the end of the summer?

Read x papers? Write x pages? Solve problem x?
Publish paper at x? Learn about x?

Do this every semester/month/week!

Important part

Have some kind of system...

Adapt as needed to be sure you are being effective

Best part of being a PhD student...

Freedom to do whatever you want, whenever you want!

Worst part of being a PhD student...

Freedom to do whatever you want, whenever you want!

Learn to use a calendar

Mark out blocks of time you will spend on different types of work

- Courses, thinking, reading, coding, writing, etc

Tue 22	Wed 23	Thu 24	Fri 25
Go to DC Work	Go to DC Work		Go to DC Work Gutter replacement
10 AM PhD status updates 11 AM Dr. Wood Meeting School of Engineering	10 AM Student Slots 10 AM CS faculty meeting 11:30 AM Women faculty luncheon 12:45 PM CSCI 8901 Research... Dave and sydney Dave and nicole	10 AM Zhen/Tim	9:30 AM SEAS Personnel Meeting 11 AM Kevin?
1 PM Student Slots Grace Liu: Meetings	1:15 PM look at d... Nick: Meetings	Student... review d... Ratnadeep Bhattacharya	1 PM Student Slots 1 PM ONVM MS meeting 2 PM Aspiration... GW... Grace Liu:... Grace Liu: Meetings
		4:30 PM ONVM Meeting	

Put in the time

Working hard does pay off

- But you need to work effectively

There is no way to hit your 10,000 hours if you aren't putting in a full work week

How do you spend your time?

