



# INTERNSHIP & GRAD SCHOOL INFO SESSION

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# INTRODUCTIONS

- Name /year
- Why MU?
- Why math, stats or math ed?
- Minor?
- After MU?
- Hobbies?
- Why do you think internships are important?
- Your questions about
  - Internships?
  - Grad Schools?

# INTERNSHIPS: WHY IMPORTANT

- Find out if you like the work
- You will be more experienced when you start your first job
- Opportunity for future job with that company
- Network for future job as mentors move to other companies
- Builds resume
- All else being equal puts you ahead of those who did not have an internship

# INTERNSHIPS: WHERE TO FIND

- Watch for my emails, so far this year I've sent out
  - Federal Reserve
  - NSA
  - Johnson & Johnson
  - Prudential
  - US Navy
- These are also posted on the MU Math Dept Webpage:  
<https://www.monmouth.edu/departments/mathematics/internship-opportunities/>
- Internet Searches: BigInternships.com; Linked In, your own search
- Websites of Mathematical Societies
  - Mathematical Association of America & American Mathematical Society
  - American Statistical Society
  - Society for Industrial and Applied Mathematics
- Federal Government Agencies
  - National Labs (<https://www.energy.gov/jobs-national-labs>)
  - NSA (<https://www.intelligencecareers.gov/nsa/nsastudentsportal.html>)
- School of Science Internship Panel Event
- Also checkout REU's: Research Experience for Undergraduates at universities

# INTERNSHIPS: THE PROCESS

- Timing: NOW for next spring or summer
- Each company will have their own process
- Usually require
  - Application
  - Resume – We can help; also see Career Services
  - Cover letter – Same
    - Make generic letter and then tailor to the specific company
  - References – professors who you know & trust

# INTERNSHIPS: PAST INTERNSHIPS

- Hershey Park – Admissions modeling
- Pepsi – Supply chain modeling
- Kindle – What should next version be?
- JP Morgan – Portfolio modeling
- USGA – Golf Course Performance
- Willis Re – Actuary
- University of Rhode Island, University of Hawaii
- Benjamin Moore – Brenda Dreisbach

# INTERNSHIPS: IN ADDITION

- Consider the Careers In Mathematics Seminar
  - Juniors & Seniors
  - Explore Various Careers
  - MU Math Alumni & Others are Guest Speakers
  - 1 credit

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BRENDA DREISBACH



An abstract graphic on the left side of the slide, consisting of a network of white lines and small circles on a blue gradient background. The lines are vertical and horizontal, with some diagonal branches, and the circles are placed at various points along these lines, resembling a circuit board or a neural network diagram.

QUESTIONS??

# GRAD SCHOOL: SHOULD I GO?

ADVANTAGES

DISADVANTAGES

# GRAD SCHOOL: SHOULD I GO?

## ADVANTAGES

- Better job
  - More interesting
  - More responsibility
- Higher starting salary
- Usually FREE
- Postpone career decision

## DISADVANTAGES

- More school
- Can't begin earning
- Can't pay off undergrad debt as quickly

# GRAD SCHOOL: MS OR PHD?

- MA or MS
  - Usually 2 years; \*sometimes\* free (<https://jlmartin.ku.edu/~jlmartin/masters.html>)
  - Living stipend - you work as TA or RA
  - Usually comprehensive exam or thesis
  - Is sweet spot in time to complete vs start salary & better job
  - Employer will sometimes pay for you to get your Masters
- PhD
  - Usually 5-6 years (3-4 years course work, 2-3 years research); usually free
  - Comprehensive written & oral exams plus a research thesis
  - Possible to quit after 2 years & leave with MS
  - Qualified to teach at the college/university level
  - Qualified for high paying, very interesting & responsible work in industry/government

# GRAD SCHOOL: SELECTING A SCHOOL

- Geography
- Difficulty of admissions
- Difficulty of program
- Area of interest
- Cost of living
- Financial Aid

# GRAD SCHOOL: PROCESS

- May vary by school
- Take GREs (some schools are postponing this requirement)
- Application
- Transcript
- Letters of Recommendation
- Personal Statement
- Timing:
  - December to January (PhD)
  - December to March (Masters)

# GRADUATE STUDENTS GET **FREE** HIGHER DEGREES **PLUS** A LIVING STIPEND

MU GRADS HAVE BEEN WIDELY ACCEPTED IN MS OR PHD PROGRAMS:

- NC State
- U Virginia
- Penn State
- Virginia Commonwealth
- WVU
- Villanova
- University of Luxembourg
- Rutgers
- U Mass
- Oregon State
- Montclair
- U Delaware
- U Vermont
- George Mason
- U Georgia
- West Chester PA
- Ball State - Indiana
- Syracuse
- Montana St
- Rochester
- Colorado State

# INTERNSHIP & GRAD SCHOOL RESULTS

## JOB MARKET COMPETITIVE BUT...

- MU grads work for
  - Children's Hospital of Philadelphia: medical research
  - Johnson & Johnson: clinical pharmaceutical trials
  - Educational Testing Service: validity & reliability of standardized tests
  - NY Mets/NY Jets/ PGA: sports performance, business and insurance analysis
  - Horizon Blue Cross/Blue Shield: health insurance analysis
  - Prudential Insurance: actuarial analysis
  - JMP: designing statistical software
  - NOAA: disaster supply chain management
  - NSA: ???
  - Almost every school district in Monmouth county (and beyond)
  - Professors at UVa, Washington College



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QUESTIONS??