

ST 790 Navigating the PhD program and beyond: perspectives, skills, and strategies

Semester: Fall 2025

Lecture days/times: Wednesdays 15:00–16:30

Location: 5270 SAS Hall

1 credit hour

Instructor: Dr. Jonathan P Williams

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Course website: <https://jonathanpw.github.io/ST790>

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Office hours: By appointment

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**Course Description:** This course will expose PhD students in statistics to a structured overview of the skills they are expected to learn, how they are expected to develop these skills, what type of career opportunities they are being trained for, and how to best align with a particular career path. The course will focus on the skill development necessary for research-focused academic, teaching-focused academic, and industry career paths. The course will mainly focus on the following aspects, in particular: beginning in research in statistics, statistics research landscape, professional development, scientific writing, research, teaching, and job searches. The course will involve guest speakers, individual presentations, and class participation.

**Prerequisites:** This course is intended for second year PhD students in statistics.

**Optional Texts:**

- *How to succeed in academics* by Linda McCabe and Edward McCabe
- *The academic job search handbook* by Julia Vick and Jennifer Furlong
- *The professor is in: the essential guide to turning your PhD into a job* by Karen Kelsky
- *Preparing for a career in academia: personal stories, insights, and advice* by Dana Dunn and Maureen McCarthy
- *Becoming an academic: how to get through grad school and beyond* by Inger Mewburn, Katherine Firth, and Shaun Lehmann
- *The Chicago guide to your academic career: a portable mentor for scholars from graduate school through tenure* by John Goldsmith, John Komlos, and Penny Gold
- *How to write mathematics* by Paul Halmos
- *Writing mathematical papers in English: a practical guide* by Jerzy Trzeciak

- *Mathematical writing* by Donald Knuth, Tracy Larrabee, and Paul Roberts
- *How to write and publish a scientific paper* by Robert Day and Barbara Gastel

These books focus on the practical aspects of being a successful academic, such as navigating the academic job market, publishing and grant writing, and teaching strategies. They also provide personal stories and advice from experienced academics, making them useful resources for PhD students preparing for academic careers.

### Grade Distribution:

Assignments 100%

### Letter Grade Distribution:

$\geq 93.00$	A	73.00 - 76.99	C
90.00 - 92.99	A-	70.00 - 72.99	C-
87.00 - 89.99	B+	67.00 - 69.99	D+
83.00 - 86.99	B	63.00 - 66.99	D
80.00 - 82.99	B-	60.00 - 62.99	D-
77.00 - 79.99	C+	$\leq 59.99$	F

For students taking the course as credit-only, S is equivalent to C- or better; otherwise U. No expectations beyond attendance apply to students choosing to audit the course.

**Final period:** 15:30–18:00 on Monday, 8 December 2025.

### Course policies and commentary:

- **Assignments**
  - Small tasks related to professional development will be assigned throughout the semester. Grades are based solely on participation.
- **Attendance**
  - Attendance is not recorded.
  - Use lecture time as you feel most productive, but do not use it in a way which is distracting to others.
- **Class recording statement**
  - No components of this course will be recorded.

### Tentative Course Outline:

- Transitioning from coursework to research (1 week)
- Areas of statistics research (1 week)
- Monte Carlo simulation studies versus mathematical proofs (1 week)
- Scientific writing: general principles (1 week)

- Scientific writing (and reading): literature reviews (1 week)
- Scientific writing: academic publishing and the purpose of journals (1 week)
- Open source research practices (1 week)
- Academic presentations (1 week)
- Academic careers (1 week)
- Academic research careers at R1 institutions (1 week)
- Guest panel: jobs in industry (1 week)
- Grant funding (1 week)

**NCSU Policies, Regulations, and Rules:** Students are responsible for reviewing the NC State University Policies, Rules, and Regulations (PRRs) which pertain to their course rights and responsibilities, including those referenced both below and above in this syllabus:

- Equal Opportunity and Non-Discrimination Policy Statement <https://policies.ncsu.edu/policy/pol-04-25-05> with additional references at <https://oied.ncsu.edu/divweb/policies/>
- Grades and Grade Point Average <https://policies.ncsu.edu/regulation/reg-02-50-03>
- Credit-Only Courses <https://policies.ncsu.edu/regulation/reg-02-20-15>
- Audits <https://policies.ncsu.edu/regulation/reg-02-20-04>

**Policy on Academic Integrity:** Cheating, plagiarism and other forms of academic dishonesty will not be tolerated. Violations of academic integrity will be handled in accordance with the Student Discipline Procedures (NCSU REG 11.35.02). Be aware of the Code of Student Conduct (NCSU POL11.35.01) and Pack Pledge.

**Disability Services for Students:** Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with the Disability Resource Office at Holmes Hall, Suite 304, 2751 Cates Avenue, Campus Box 7509, 919-515-7653. For more information on NC State's policy on working with students with disabilities, please see the Academic Accommodations for Students with Disabilities Regulation (NCSU REG 02.20.01).

**Privacy:** Students may be required to disclose personally identifiable information to other students in the course, via digital tools, such as email or web-postings, where relevant to the course. Examples include online discussions of class topics, and posting of student coursework. All students are expected to respect the privacy of each other by not sharing or using such information outside the course.