Graduate Student Orientation

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Department of Statistics

Indiana University

This information is for Fall 2018. It is intended primarily for new and returning students in the MSSS (M.S. in Statistical Science) degree program.

These slides will be posted on the department’s web page.
Indiana University’s Department of Statistics was created in July 2006. It is currently located in the Informatics East/West complex on the northeast corner of East Tenth Street and Woodlawn Avenue.

The department currently offers three graduate degree programs:

- M.S. in Applied Statistics (for students in other IU Ph.D. programs)
- M.S. in Statistical Science
- Ph.D. in Statistical Science
Key Personnel

Kelly Hanna provides staff support for the department’s various degree programs. See her first for most of your needs!

Dana Fielding is the department’s manager and fiscal officer. See Kelly or Dana for help with course registration. See Dana about financial matters.

The Director of Graduate Studies (DGS) is Chunfeng Huang.

Faculty who (may) serve on the Graduate Studies Committee: Daniel Manrique-Vallier, Julia Fukuyama.

If you have not already done so, please ask Kelly to schedule a time for you to meet with a faculty member to discuss your program of study and plan your fall semester.

Additional faculty: Dan McDonald, Andy Womack, Amanda Mejia, Brad Luen, Arturo Valdivia, Jianyu Wang, Jaime Ramos, Yen-Ning Huang, Nicholas Kaukis, Tamer Elbayoumi.

Indiana Statistical Consulting Center: Spencer Hays, Hannah Bolte, J.D. Seo.
M.S. in Statistical Science

Eight core courses:


- Applied Statistical Computing (STAT-S 611) and Workflow Analysis & Reproducibility (STAT-S 612). First year.

- Introduction to Probability (MATH-M 463) and Statistical Theory (STAT-S 620). First year.

- Statistical Consulting (STAT-S 690). Fall of second year.


At least two elective courses, typically in the second year. If you do not need to take MATH-M 463, then you may want to take an elective in your first semester.
An important component of the MSSS program is experience working in the Indiana Statistical Consulting Center (ISCC). Effective consulting requires (a) knowledge of statistical methodology, (b) practice analyzing data, and (c) good computing skills and work habits. The 631–632 and 611–612 sequences are designed to prepare students for supervised contact with ISCC clients in their 3rd semester, followed by a one-semester internship in their 4th semester. Highly motivated students may apply to volunteer at ISCC during their 1st and/or 2nd semesters.
Fall 2018 Courses

Required for MSSS Students

Applied Linear Models I (631, Arturo Valdivia).
All first-year MSSS students must take this course!

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Introduction to Probability Theory (MATH-M 463, Kevin Pilgrim).
Be sure to register for the grad student section!

Statistical Consulting (690, J.D. Seo).
All second-year MSSS students must take this course!
Highly Recommended for MSSS Students

Nonparametric Theory & Data Analysis (625, Brad Luen)

Exploratory Data Analysis (670, Julia Fukuyama)

Survival Analysis (SPH-Q 612, David King)

Machine Learning (CSCI-B 555, Roni Khardon)

Data Mining (CSCI-B 565, Memo Dalkilic)

Recommended for students contemplating advanced graduate study.

High-Dimensional Data Analysis (675, Michael Trosset)
From undergraduate to graduate study. Less breadth, greater depth. Take 2–3 courses per semester, but learn everything you can.

From foreign universities to U.S. universities. You are not alone! Many of our faculty completed their undergraduate studies in other countries.

Communicate your concerns to our faculty, especially our DGS (Chunfeng Huang), your advisor, and your instructors. If you are struggling, don’t keep it to yourself—let us help!

Note the Resources for graduate students tab on the department website, including: a welcome letter from Kelly, advice from a former student, information about summer internships and jobs, etc.

Nic Bussberg (PhD student) is organizing a club for statistics grad students.
Our primary concern (and the primary concern of prospective employers) is that students who receive the MSSS degree achieve certain levels of knowledge about and proficiency in statistical science. *One learns by doing one’s own work*. Therefore. . .

As a student at IU, you are expected to adhere to the standards and policies detailed in the *Code of Student Rights, Responsibilities, and Conduct* (Code). When you submit a test or exam paper with your name on it, you are signifying that the work contained therein is entirely your own, unless otherwise cited or referenced. Any ideas or materials taken from another source for either written or oral use must be fully acknowledged. If you are unsure about the expectations for completing an assignment or taking a test or exam, then seek clarification with your instructor beforehand. All suspected violations of the Code will be handled according to University policies. Sanctions for academic misconduct may include a failing grade on the assignment, reduction in your final grade, a failing grade in the course, among other possibilities, and must include a report to the Dean of Students.
Some Practical Guidelines

Each instructor will establish specific policies and expectations for his/her course. Typically these policies will be stated in the course syllabus. If you are confused about the rules for completing an assignment, then ask the instructor for clarification. Ignorance (e.g., “I didn’t know that I wasn’t allowed to copy X’s final exam.”) is not a valid excuse.

Virtually all instructors prohibit collaboration with other students on tests and exams. Some instructors permit collaboration on homework assignments, others do not.

Individual projects should be completed without collaboration; team projects require each member to contribute.
Acknowledge Your Sources

Any resources you use must be cited. For example, writing

“Essentially, all models are wrong, but some are useful.” (Box & Draper, *Empirical Model-Building and Response Surfaces*, 1987, p. 424.)

is fine, but writing

Essentially, all models are wrong, but some are useful.

is plagiarism.
IU rarely guarantees financial support to MS students; however, the Department of Statistics often has enough TA (Teaching Assistant) positions that it can hire several MSSS students per semester. MSSS students are encouraged to apply for TA positions. Please be aware, however, that TA positions are of vital importance to the department’s mission and involve substantial obligations, e.g., to be responsive to instructor requests, to perform assigned tasks competently and efficiently, to be available for the entire semester, etc. More information will be provided in special orientation meetings for TAs.
Contact Kelly to schedule a meeting with a faculty member. Please do so ASAP, in order to ensure that you register for appropriate courses.

R Workshop. The (free!) statistical programming language R is widely used in statistics (including most of the statistics courses you will take at IU) and machine learning. Dr. J.D. Seo, from the Indiana Statistical Consulting Center (ISCC), will conduct a workshop on R on August 17, 10:00am–noon, in Informatics East 130. Please attend!

Party! The department will host a social event on Friday, August 17, 12:30–2:30pm, in Informatics East. Everyone is welcome!