Training Statistics Teachers at Iowa State University*

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Courses

- **Stat 101 (intro - general)**
  - 5 course instructors.
  - 10 laboratory instructors.
- **Stat 104 (intro - agricultural and biological)**
  - 5 course instructors.
- **Stat 226 (intro - business)**
  - 5 course instructors.
  - 5 graders.
Courses

• Stat 105, 305 (intro - engineering)
  – 6 course instructors.
• Stat 326 (2nd course - business)
  – 6 laboratory instructors.
• Stat 401 (2nd course - general)
  – 5 laboratory instructors.

Management

• Professor-in-Charge (Stat 101, 104, 226, 326)
  – Chooses text.
  – Sets syllabus and course policies.
  – Develops common HW assignments and labs.
  – Develops teaching materials.
  – Approves exams and grades for TA instructors.
  – Coordinates disability accommodations.
  – Resolves student concerns in all sections.
• Course mentor (Stat 105, 305)
• Course Instructor (Stat 401)
New Graduate Students

• Supported by the Department
  – Teaching Assistants (TA)
  – Research Assistants (RA)
  – Consultants
• Not Supported
  – Students in Other Disciplines (concurrent M.S. or Ph.D. student in Statistics)

Teaching Assistant (TA)

• M.S. Students
  – Year 1 possible assignments
    • Laboratory Instructor (1/4 time)
    • Grader (1/4 time)
  – Year 2 possible assignments
    • Course Instructor (1/2 time)
    • Laboratory Instructor (1/4 time)
    • Grader (1/4 time)
Teaching Assistant (TA)

• Ph.D. Students
  – Same path as M.S. Students
  – At some point, almost all will be either
    • Course Instructor
    • Laboratory Instructor

Training Process - Year 1

• Laboratory TA (Stat 101, 326, 401)
  – Present labs written by course instructor.
  – Facilitate student learning.
  – Weekly meetings with course instructor and/or Professor-in Charge.

• Evaluations
  – Students
  – Course Instructors
  – Good evaluations = “promoted” to course instructor.
Training Process – Year 2

- **Course Instructor (Stat 101, 104, 105, 226, 305)**
  - Lectures
  - Assessments (Exams, Quizzes)
  - Grades
  - Course Management (students, graders, lab TAs)
- **Weekly meetings with Professor-in-Charge**
- **Evaluations**
  - Students
  - Classroom visits by Professor-in-Charge

Rationale

- **Lack of Experience in Statistics**
  - Many did not take intro course themselves
  - Background more theoretical
  - Learn statistical concepts through teaching
- **Teacher training programs**
  - Classroom observation experiences
  - Student teaching experience
- **Prepare for possible role as future faculty member**
Rationale

• Scholarly teaching in Introductory Statistics
• Professors-in-Charge involved in Statistics Education.
  – Current accepted “best” practices
  – Mentoring instructors throughout semester

Possible Concerns

• Evaluation of Laboratory Assistants
• Identification of Good Course Instructors
• Professor-in-Charge
  – Credit on Position Responsibility Statement.
  – Effect on career advancement.
Future Direction

• 1 credit hour Seminar Course?
  – Statistics Content
  – Statistics Pedagogy
  – Course Management
  – Statistical Software Packages