

WILDEST Workshop Specifics

The overarching objective of the workshop is to train a network of high school teachers to teach ISU's introductory statistics course, Math 253, as a dual enrollment course. This course is one with a stable curriculum that meets the basic rationale of a dual enrollment course, namely, that the course is a beginning course in several degree programs. At ISU the 253 course is a requirement in at least 10 programs. Moreover, there is high demand for Math 253 with yearly enrollments at ISU averaging 1000 students. Reflecting the growing role of statistics in many degree programs, the vast majority of students taking Math 253 do so because it is required for their degree rather than merely to meet a general education requirement, which Math 253 does. Traditionally, the Advanced Placement program has developed college courses for high school seniors that are beginning courses in degree programs. They did so in statistics ten years ago and have seen a tenfold growth in the decade since with last year's AP statistics exam being taken by nearly 90,000 students nationally. The need for statistics in Idaho is no different than it is nationally. For a high school senior with a solid precalculus background, the 253 course is an opportunity to fulfill a college program requirement while still in high school, which puts the student in a position to complete a degree more rapidly.

A dual enrollment Math 253 is different than an AP only course. One immediate difference is that a dual enrollment course is run in a time-tested manner: course concepts are developed over the entire academic year with periodic exams that assess student comprehension. In contrast, an AP course requires the student to pass a single exam at the end of the year. A student's performance hinges entirely on the one exam and does not take into account any of the other valuable ways that student performance can be measured. ISU faculty in a dual enrollment course is also a decided advantage as an immediate and on-going resource to the participating teachers. The ability for a teacher to discuss content issues in a timely manner with a broadly-trained statistician allows the high school students to be better prepared for the later courses in their chosen program. In other words, the dual enrollment course is not preoccupied with teaching to a single test as an AP course inevitably is.

The teacher-preparation course will take place over two summers running four days per week for six weeks beginning in 2007. Technology will be incorporated into every aspect of course content through calculator usage and statistical software. This is important because it reflects the practice of statistics. It is expected that some, if not all, participating schools will be in a position to successfully offer Math 253 as a dual enrollment course beginning in fall 2007. The second summer's six-week period is vital to the long term success of the training, and will function in two ways. First, it provides us with the ability to give teachers the added statistical depth to go with their teaching experience. Second, it allows us to assess the success of their first-time effort and make any needed adjustments in a timely manner.

The workshop has been designed by three statisticians: Dr. DeWayne Derryberry, Ms. Deb Schleusener and Mr. Luther Yost. All three hold advanced degrees in statistics and have professional experience with the real-world practice of statistics. They are also experienced college instructors, and Dr. Derryberry has served as a grader for AP exams. Ms. Schleusener and Mr. Yost will be the primary instructors for the first summer.

Details

1. Schedule:

- Commitment date May 16, 2007: This is the date by which participants are required to sign up for the workshop and pay their tuition cost.
- The course runs June 4 to July 12.
- Each week the class meets Monday thru Thursday from 9:30 to 11:30 AM in the Owen-Redfield Building, Room 240B.
- We will not meet on July 4. This class will be addressed at the beginning of the workshop.
- The workshop has been set up with a MATH prefix and numbered as 498P/598P. This allows the workshop to be used towards teacher recertification. Participants will be allowed to register online for the course after April 23 when the 498P/598P course will appear in the College of Arts & Sciences summer course offerings.
- Daily attendance is mandatory with the exception of genuine emergencies. This is not a traditional lecture class, and daily participation is an essential aspect of the course. Much of the value of the workshop will come from the daily discussions and interactions that will build a learning community of fellow teachers.
- A web component will be incorporated into the workshop. For web-based course tools, ISU is moving to a course management system called *Moodle*. This is a free, open-source software package designed to help educators create effective online learning communities.

2. Tuition, Stipends and Travel Reimbursement:

- The tuition for the course is \$150.00. This is covered by a grant that is underwriting the project. When registering for the course, participants are required to pay the tuition cost upfront. Reimbursement is described below.
- Each teacher will receive a stipend of \$750.00 for completing the workshop.
- Both the stipend and tuition reimbursement will be paid to each teacher on the last day of the workshop. Note: by law the stipend and tuition reimbursement are considered taxable benefits so there will be some tax taken out of the stipend.
- At present, we are working out the details of getting travel reimbursement for teachers not in district 25. In at least one case, the travel time is such that it makes sense for a teacher to stay in Pocatello Sunday night thru Wednesday night. With some advance notice, university housing can be arranged to eliminate unreasonable travel.
- Textbooks and software will be provided. However, each participant will be required to supply their own TI-83 calculator.

Proposed Schedule

Summer 2007		Summer 2008	
Week 1	Content of one semester college statistics course (equivalent to 70% of an AP course)	Week 1	Content from the remaining full year AP course
Week 2		Week 2	
Week 3		Week 3	Integrated case studies emphasizing communication, depth and insight (related to topics presented in Weeks 1-2, plus additional topics)
Week 4	Week 4		
Week 5	Week 5		
Week 6	Design of high school course / pedagogical issues	Week 6	Techniques for optimizing student success on AP exam

Resources and Technology

Technology will be incorporated into every aspect of course content. Its use is a reflection of the data-driven nature of statistical work. For this reason, the teacher preparation course will utilize:

- The AP/introductory college statistics text, *Stats: Modeling the World*, to be used by the high school students in the dual enrollment course.
- A more advanced statistics text, *The Statistical Sleuth*, to provide depth and insight in the teacher's statistical training.
- The TI-83 calculator, which is used on the AP exam.
- Minitab software, which is used in college courses, and allows projects involving real data reflecting the actual practice of statistics