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### **The Challenge:**

Michael Wagenheim is the department's Senior Support Systems Analyst, and he was tasked with deciding whether to upgrade his department's old Scantron® system or move to a plain-paper solution. The department primarily needs the scanning solution to handle the grading of introductory biology exams. It is a two semester course and because it is a large state university, both courses are quite large.

Each course has 1500 students, give or take 200 students. For practical reasons with grading, the courses give multiple choice exams. The courses are broken up into 4 or 5 sections taught by different professors. Each section uses different syllabi and exams. There are no course-wide exams given. To further complicate things, each professor gives multiple versions of each exam to cut down on cheating.

### **The Solution:**

On the switch to Remark Office OMR®, Michael says "The decision was based on cost, ease-of-use, and performance. It (Remark Office OMR) was less expensive in that it allowed us to get away from using the Scantron sheets. We give up to 12,000 multiple choice exams/year just for our introductory biology courses. The Scantron sheets are expensive."

He goes on to say "Remark Office allowed us to print on white paper and that significantly lowered our costs while giving us the flexibility to design our own bubble sheets." While Michael says it is difficult to say how much money this has saved in terms of labor, he does see that in paper costs alone "we are saving approximately \$2,000 to \$3,000 by not having to buy the Scantron sheets."

He also appreciated getting the system up and running quickly, noting that "it was also fairly intuitive to get started without formal training."

Another challenge Michael had faced was to decrease the number of misidentified forms. "With the Scantron sheets, the students used to have to bubble in their last name, a 4 digit course PIN, and the exam version number before they could start taking the exam. There was a very high error rate of students misidentifying themselves, their PINs, and/or the version number. You can imagine how time consuming it was to get to the bottom of all of this with the Scantron (forms)" he says.

He goes on to say "The error handling and the ability to deal with bar codes were also big sellers as they addressed issues we were not happy with using the Scantron system."

Michael describes his department's new workflow, which uses Remark Office OMR and forms scanned with a Xerox scanner: "Prior to each exam, we print out mailing address labels with the student's name and university email username. We use bar code 3 of 9 on the address labels to encode their usernames and these stickers get placed on the bubble sheets when they turn them in. This has cut down tremendously on students misidentifying themselves and the exam version numbers."

He notes "The big time sink we have always had was grading exams. This has cut that time by over 50%."