

IS ENROLLMENT DECLINE
Summary of ISWorld Responses

Robert C. Nickerson
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On September 11, 2007, I sent the following message to the ISWorld list:

Does anyone have any hard data on enrollment decline nationwide in IS? I hear lots of anecdotal comments, but I would like to get some real numbers. Our PR department is working on a story the theme of which is that jobs in IS are coming back but enrollment is not. They would like some real data to work with.

Below are the responses that I received.

I have no data. BUT, I would love to see the article when it is done -- and would love to see the data if you can track it down.

Vicki

Dear Dr. Nickerson,

I regret that I do not have any data I can contribute, but I would like to ask (beg) that you share your replies with the community. Our department's enrollment is down somewhat, but that is all our administration has needed to start making noise about eliminating the MIS department.

Micki Hyde, Ph.D.
Associate Professor
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Hello Rob:

It is interesting timing for this request. Chris Street and I have just gone through a similar process of gathering enrollment data to provide some background for our upcoming ICIS panel on teaching innovation. Like your school, the reviewers wanted hard evidence of a decline. We found a number of references to it in the literature (see below), but all were anecdotal.

By hook and by crook, we cobbled together data from about 20 schools. These data show a precipitous decline (see below) over the past few years. However, we can't claim that the data are valid or representative. If you receive additional numbers, please pass them along as we will use them in the panel.

Cheers - Mike

P.S. Jane Mackay posted a similar request last year, and there may have been others prior to that. They are available on the ISWorld list archive.

Undergraduate IS major enrollment

| Year | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|------------------------|-------|----------|----------|----------|----------|----------|----------|
| | | | | 200 | 166 | 133 | 100 |
| | | | | 113 | 92 | 71 | 50 |
| | 350 | 300 | 240 | 180 | 125 | 70 | |
| | | | 771 | 547 | 415 | 390 | |
| | 490 | 480 | 390 | 250 | 190 | | |
| | | | 255 | 261 | 149 | 105 | |
| | | | | 300 | 250 | 200 | 150 |
| | | | | 90 | 77 | 63 | 50 |
| | 560 | 450 | 300 | 220 | 185 | 175 | |
| | | | 600 | 400 | 300 | 250 | |
| | | | 812 | 584 | 377 | 260 | |
| | 120 | 110 | 75 | 50 | 50 | 40 | |
| | 415 | 377 | 355 | 300 | 237 | 167 | |
| | | | | 74 | 54 | 28 | 27 |
| | | | 107 | 79 | 69 | 47 | |
| | 810 | 1130 | 1128 | 853 | 831 | 570 | |
| | | | | 440 | 355 | 270 | 180 |
| | | | 158 | 98 | 62 | 70 | |
| | | | | 210 | 175 | 140 | 105 |
| | | 75 | 60 | 45 | 25 | | |
| Average | 457.5 | 417.4286 | 403.9231 | 264.7 | 209.2 | 169.3889 | 94.57143 |
| Sum | 2745 | 2922 | 5251 | 5294 | 4184 | 3049 | 662 |
| Percentage differences | | 8.758782 | 3.235403 | 34.46772 | 20.96713 | 19.03017 | 44.16905 |
| Outlier | 2190 | 2242 | 2120 | 1826 | 1390 | | |

George, J. F., J. S. Valacich, and J. Valor. (2005). "Does Information Systems Still Matter? Lessons for a Maturing Discipline," Communications of the Association for Information Systems (16). pp. 219-232.

Looney, C.A. and A.Y. Akbulut (2007). "Combating the IS Enrollment Crisis: The Role of Effective Teachers in Introductory IS Courses", Communications of the Association for Information Systems (Volume 19), pp. 781-805.

Ives, B., J. S. Valacich, R. Watson, and R. Zmud (2002). "What Every Business Student Needs to Know about Information Systems," Communications of the Association for Information Systems (Volume 9), pp. 467-477.

Vegso, J. (2005). "Interest in CS as a Major Drops among Incoming Freshmen," Computing Research News (17).

Rob,

I have done some analysis of hard data done on 'degrees granted' data at the state level.

Interestingly, most of the major drops in student graduation in IT:

- 1) appear to have hit only in the last 2 years
- 2) appear to have hit IS/MIS much harder than CS

- Rick Mathieu

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We had over 450 students in 2000... now we have less than 150. I hope this helps :)

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Rob --

You might try these citations:

Patterson, D. Restoring the popularity of computer science. *Commun. ACM* 48, 9 (Sept. 2005), 25-28.

"Tech Bust Zaps Interest in Computer Careers" *Los Angeles Times* (07/20/04) P. A1;
Pham, Alex (they cite empirical data and sources)

Litecky, C., Prabhakar, B., and Arnett, K. 2006. The IT/IS job market: a longitudinal perspective. In *Proceedings of the 2006 ACM SIGMIS CPR Conference on Computer Personnel Research: Forty Four Years of Computer Personnel Research: Achievements, Challenges & the Future* (Claremont, California, USA, April 13 - 15, 2006). SIGMIS CPR '06. ACM Press, New York, NY, 50--52.

Foster, A. L. (2005, May 27). Student interest in computer science plummets: Technology companies struggle to fill vacant positions. *The Chronicle of Higher Education*, pp. A31-A32.

Hoping this helps,

Tom Hilton
IS Dept. Chair*
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Jack Becker, David Naumann and I have a paper in AMCIS 2006 on this exact topic with figures and charts

<http://aisel.isworld.org/article_by_author.asp?Author_ID=4815>

Nik R. Hassan

Rob:
Contact Joey George jgeorge@garnet.acns.fsu.edu at Florida State. In addition to being the CAIS editor, he is running a scholar's symposium on the topic at the Montreal ICIS.

Regards

Paul

Hello Rob

As you know we did a panel and a paper on this at AMCIS - Mary is currently writing up the panel for CAIS.... so we would love to hear if you are able to get any "hard" data - we actually found it very difficult to get actual numbers other than specific schools (and that raised the question of different methods of counting)

About the only general thing we could find was "Enrollment in IS-related academic programs has declined dramatically since the heady days of the dot-com boom. According to Bureau of Labor statistics, "the number of total incoming freshmen planning to seek an IS or computer science degree is 1.1 percent, down from 3.7 percent in 2001" (Tucci, 2007). " (this is from our paper)

Tucci, L. (2007, April 5), "IT Jobs: Tapping Teens to Fill the Gap." Retrieved April 15, 2007 from http://searchcio.techtarget.com/originalContent/0,289142,sid19_gci1250438,00.html.

Best wishes....Geoff

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yes.... Here is another bit from our paper (we have submitted it to JISE)

One of the challenges faced by the authors in preparing this paper was determining an accurate figure. The figures that are available do not clearly identify what is being counted: graduate or undergraduate enrollments; computer science, information technology or information systems; full-time equivalents or numbers of students; graduating students or numbers enrolled in majors; geographical locations; and whether or not students enrolled in compulsory core units are included. Nevertheless, it is safe to say that throughout large portions of the world, the number of students majoring in information systems and related computing areas has declined sharply. It is not unusual to hear cases of enrollment declines of over 70 percent. (ISWorld 2006; McGettrick, Cassel, Guzdial & Roberts, 2006). Throughout the United States, there has been a decrease in enrollments that ranges from 25 to 75 percent (George, Valacich & Valor, 2005). As an illustration, Figure 1 (George, Valacich, & Valor, 2005) depicts enrollment trends at one school. The graph is noteworthy because some believe the enrollments between 1996 and 2000 were an anomaly, driven by the dot.com boom, and that only a drop below 1995 levels would indicate a problem (ISWorld 2006). This graph indicates such a drop, if only for one institution. While many schools are reluctant (or unable) to provide specific figures, and while the numbers vary dramatically from school to school, the authors have had conversations with representatives from numerous programs that confirm this trend.

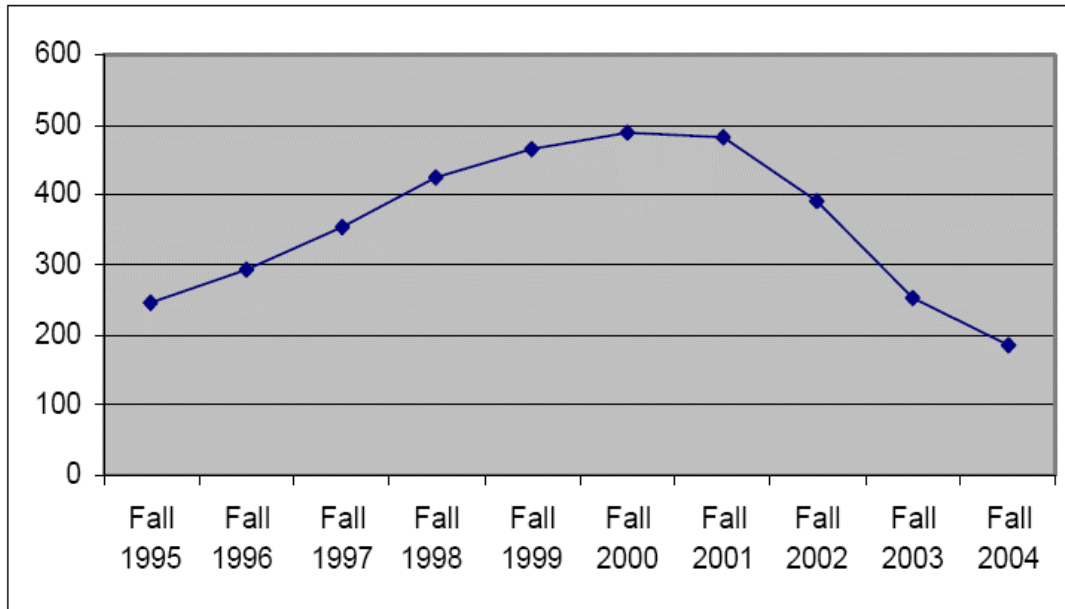


Figure 1. Number of MIS Majors at Florida State University, 1995–2004

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Rob

Your post is timely and is the question I had also been intending to ask through ISWorld albeit from a position of hoped for improvements in enrollments due to improved job prospects. I hope the responses are solid and reflect a new appreciation amongst school leavers in particular, that jobs are going to be waiting when they graduate in IS. If the interest in IS as a career does not turnaround as a result in new awareness in job opportunities then I fear the future is indeed bleak for modern economies given those in the "baby boomer" generation are nearing retirement and there will be insufficient replacements in the pipeline to cope with demand.

Rod Turner

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Australia

Hi Rob,

The next issue of the Journal of Information Systems Education will feature a paper by Mary Granger, Geoff Dick, Carolyn Jacobson and Craig Van Slyke on this very topic:

Information systems Enrollments: Challenges and Strategies

This will be a special issue on Flexible Teaching and Learning in IS, and will be due in October 2007 (Vol. 18 No. 3).

Kindest regards,
Sigi

Dear Rob & Sigi,

Thanks for bringing attention to the important issue of student enrollments. My colleague, Asli Akbulut, and I have recently published two articles related to student enrollments. There's also a paper by Joey George, et al. that may be of interest to you. I have attached the papers for your review and have provided the citations below.

Akbulut, A.Y., and Looney, C.A. (forthcoming), "Their Aspirations Are Our Possibilities: Inspiring Students to Pursue Computing Degrees," Communications of the ACM.

Looney, C.A. and Akbulut, A.Y. (2007), "Combating the IS Enrollment Crisis: The Role of Effective Teachers in Introductory IS Courses," Communications of the AIS, 19, 781-805.

George, J.F., Valacich, J.S., and Valor, J. (2005), "Does Information Systems Still Matter? Lessons for a Maturing Discipline," Communications of the AIS, 16, 219-232.

Hope this helps. Feel free to contact me if you have any questions or need additional information.

Best Regards,
Clay

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