



HEALTH PHYSICS Enrollments Decreased at all Levels in 1996. Undergraduate Degrees Decreased, Master's Increased, and Doctoral Degrees Remained the Same.

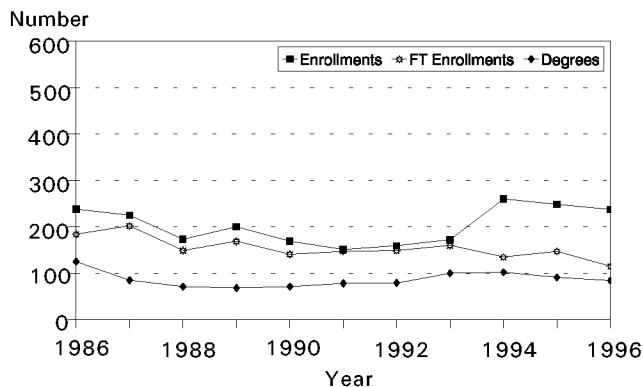
SURVEY UNIVERSE

The "Health Physics/Radiation Protection Enrollments and Degrees, 1996" survey consisted of 52 institutions offering a major in health physics/radiation protection or radiation health, or an option program equivalent to major (for example, in radiobiology or biophysics) that prepare the graduates to perform as health physicists. Of the 52 programs, 1 was a new undergraduate program, 1 program was inactive, 3 programs were suspended but allowing the students to complete their degrees, and the data for 2 programs were estimated.

UNDERGRADUATE ENROLLMENTS AND DEGREES

The total number of undergraduate enrollments decreased from 248 to 237 students, or by 4 percent over 1995. The number of full-time students decreased from 147 to 115. (Figure 1.) The decrease was attributed to the suspended programs not accepting new enrollments, and a general decline among all programs. The majority of the students were enrolled in the health physics/radiation protection or radiation health major (82 percent), followed by engineering or basic sciences option programs (15 percent).

Figure 1. Health Physics Undergraduate Enrollments and Degrees, 1986-1996



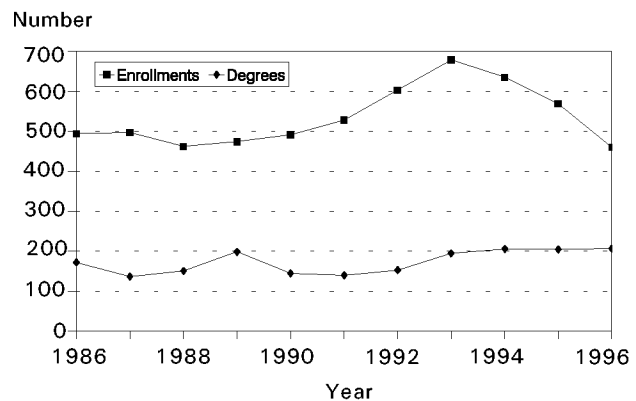
Undergraduate = Junior and Senior Level.
Source: U.S. Department of Energy.

Undergraduate degrees decreased from 91 to 84 students for 1996. As with enrollments, most of the degrees were awarded within a health physics/radiation protection or radiation health major (88 percent), while engineering or basic sciences option programs accounted for 10 percent of the undergraduates.

MASTER'S ENROLLMENTS AND DEGREES

In 1996, the number of master's enrollments decreased from 569 students to 460, or by 19 percent, continuing a downward trend since 1993. (Figure 2.)

Figure 2. Health Physics Master's Enrollments and Degrees, 1986-1996



Source: U.S. Department of Energy.

The decrease was about evenly divided between full-time and part-time students; 52 and 57 students, respectively. Sixty-two percent of the students were enrolled in the health physics/radiation protection or radiation health programs. Among the option programs, medical or radiological physics enrolled 17 percent, and engineering or basic sciences accounted for 13 percent of the students.

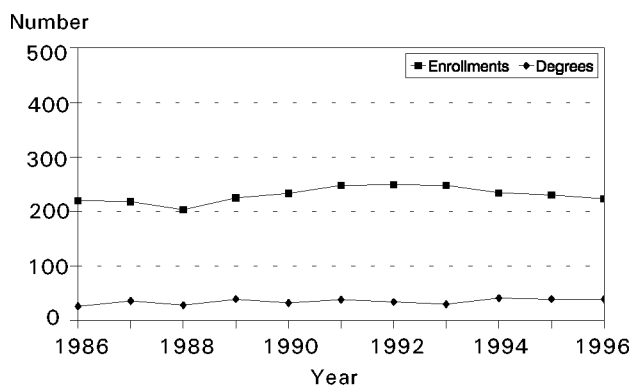
The number of master's degrees rose by 2 students over 1995 for a total of 206. The majority of the degrees were awarded within the health physics/radiation protection or radiation health major (65

percent or 133 students), followed by medical or radiological physics (14 percent) and engineering or basic sciences programs (11 percent).

DOCTORAL ENROLLMENTS AND DEGREES

Doctoral enrollments decreased in 1996 by 3 percent, or from 230 students in 1995 to 223 (184 full-time and 39 part-time). (Figure 3.) As was the case in the past few years, the decrease was due in part to suspended graduate programs not accepting new enrollments. Forty-four percent (87 full-time and 11 part-time students) were enrolled in the medical or radiological physics option programs, while health physics/radiation protection or radiation health programs enrolled 37 percent (66 full-time and 17 part-time students).

Figure 3. Health Physics Doctoral Enrollments and Degrees, 1986-1996



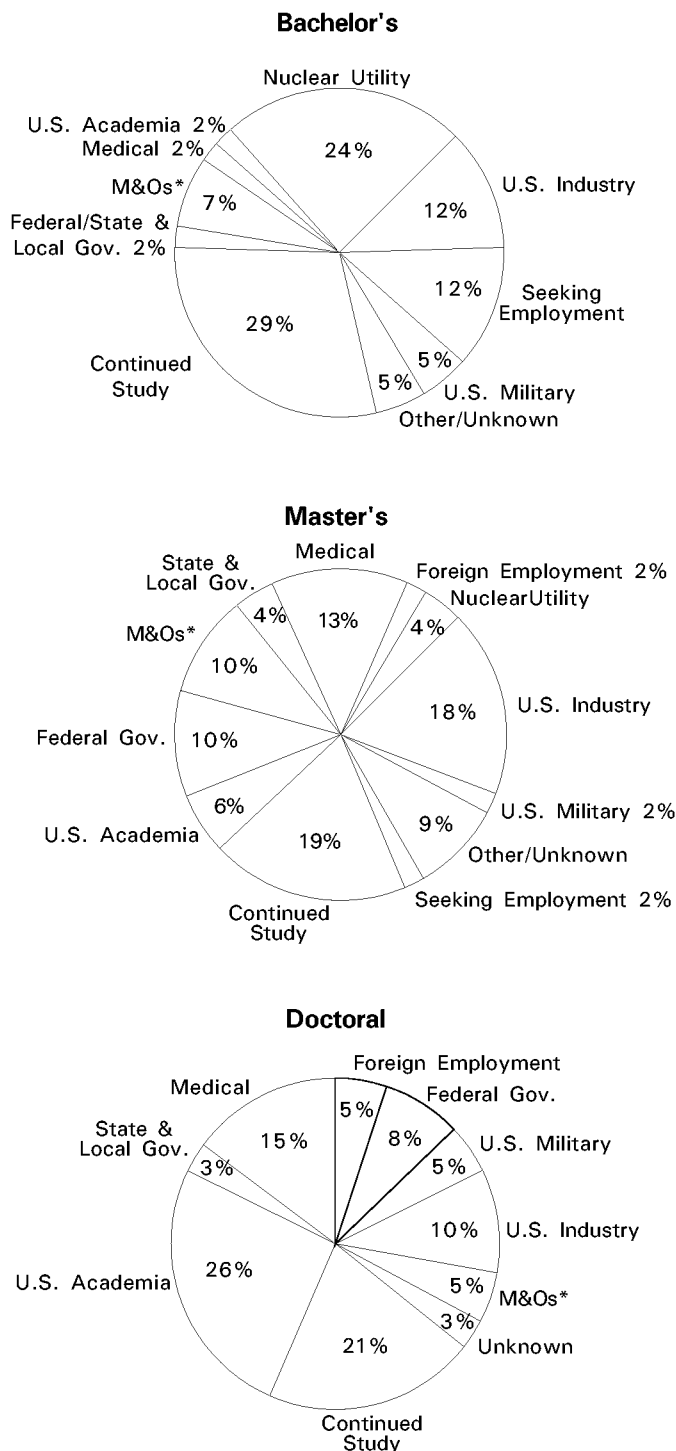
Source: U.S. Department of Energy.

Doctoral degrees remained the same as 1995 with 39 awarded, continuing their slight fluctuations since the early 1980s but at substantially lower levels than in the 1970s. As with enrollments, the highest number of students received their degrees within the medical or radiological physics option programs (44 percent or 17 students), followed by the health physics/radiation protection or radiation health programs (36 percent or 14 students).

EMPLOYMENT OR POSTGRADUATION PLANS

Of the known employment or postgraduation plans of the new graduates, 29 percent of the bachelor's elected to continue study, 24 percent went to work in nuclear utilities, and 12 were working in U.S. industry. (Figure 4.) Nineteen percent of the master's were continuing study, 18 percent were employed in U.S.

Figure 4. Employment or Postgraduation Plans of Health Physics Graduates, by Degree Level, 1996



*DOE contractor facilities.
NOTE: Percentages may not add to 100 percent due to rounding.
Source: U.S. Department of Energy.

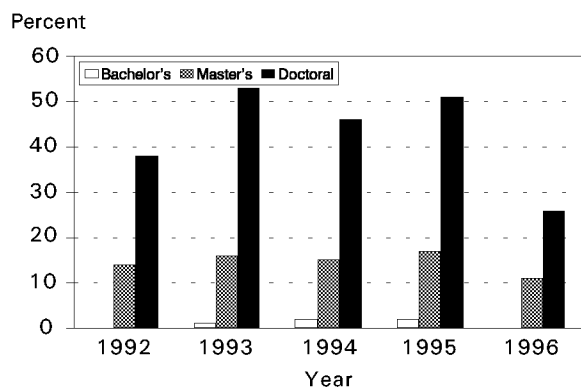
industry, 13 percent were in medical facilities, and federal government and M&Os accounted for 10 percent each. For the new doctorates, 26 percent were employed in an academic setting, 21 percent were involved in postdoctoral study, and 15 percent were employed in medical facilities.

FOREIGN NATIONAL PARTICIPATION

There were no junior enrollments of foreign nationals in health physics programs in 1996, and the number of seniors increased from 2 to 3 students. Master's students decreased from 65 to 55, and foreign national doctoral enrollments decreased from 73 to 59 students.

There were also no bachelor's degrees awarded to foreign nationals in 1996. The number of master's and doctoral degrees decreased; master's from 34 to 23 students, and doctorates from 20 to 13. (See Figure 5 for percentage of degrees awarded to foreign nationals.)

Figure 5. Percentage of Health Physics Degrees Granted to Foreign Nationals, 1992-1996



Source: U.S. Department of Energy.

Ten of the foreign national master's degree recipients planned to continue study for a higher degree, and 4 were working in U.S. industry. Four of the 13 foreign national doctorates were engaged in postdoctoral study, 2 were in medical facilities, 2 in U.S. industry, and only 1 was employed with a foreign employer.

FEMALE PARTICIPATION

Enrollment of females decreased at all levels except seniors (from 29 to 31 students). Female master's enrollments decreased from 125 to 109 students, and doctoral students decreased from 46 to 36.

Degrees awarded to women increased at the bachelor's level from 13 to 14, and decreased at the master's and doctoral levels from 51 to 35 and from 9 to 7, respectively. Women accounted for 17 percent of the bachelor's degrees, 17 percent of the master's degrees, and 18 percent of the doctoral degrees.

MINORITY PARTICIPATION

Minority enrollments and degrees (excluding foreign nationals) in health physics programs ranged from 1 to 12 percent of the total in 1996. African American enrollments increased slightly at the junior and doctoral levels, from 3 to 5 and 2 to 3 students, respectively, while master's enrollments decreased from 29 to 19 students. Hispanic enrollments increased from 3 to 6 seniors, decreased from 17 students to 15 at the master's level, and increased from 4 to 6 students at the doctoral level. The number of Asian Americans at the master's level decreased from 15 to 11 students, and increased at the doctoral level from 21 to 28 students. The percentage of degrees awarded to minorities increased slightly at all levels except Asian Americans that decreased from 5 to 2 percent at the master's level.

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All opinions expressed in this report are the authors' and do not necessarily reflect policies and views of the U.S. Department of Energy or the Oak Ridge Institute for Science and Education.

Additional survey information, providing details by individual schools and by type of program, is available from:
 Oak Ridge Institute for Science and Education
 Education and Training Division
 Analysis and Evaluation Programs
 P.O. Box 117
 Oak Ridge, TN 37831-0117

Health Physics Enrollments and Degrees, by State and Institution, 1996

State	Institution	Enrollments			Degrees		
		Undergraduate	Master's	Doctoral	B.S.	M.S.	Ph.D.
ARIZONA	Arizona State University*	1	-	1	-	-	-
ARKANSAS	Univ. of Arkansas for Med. Sci.*	-	1	-	-	-	-
CALIFORNIA	San Diego State University	-	10	-	-	6	-
	San Jose State University	-	32	-	-	1	-
	University of California, Irvine	-	-	6	-	1	-
	University of California, Los Angeles	-	3	44	-	3	8
	University of Southern California	-	1	3	-	-	1
COLORADO	Colorado State University	-	12	4	-	8	-
	National Technological University	-	8	-	-	3	-
	University of Colorado HSC	-	7	-	-	6	-
DIST. OF COLUMBIA	Georgetown University	-	23	-	-	2	-
FLORIDA	Florida A&M University**	-	3	-	-	-	-
	University of Florida, Gainesville	6	24	12	3	20	2
GEORGIA	Georgia Institute of Technology	-	44	-	-	14	-
IDAHO	Idaho State University	13	26	2	5	3	-
ILLINOIS	Rush University	-	2	10	-	2	1
	University of Illinois, Urbana	-	3	-	-	-	-
INDIANA	Purdue University	16	4	5	12	2	-
KENTUCKY	University of Kentucky	-	9	-	-	-	-
LOUISIANA	Louisiana State University	-	16	-	-	6	-
MAINE	University of Maine	-	-	-	1	-	-
MARYLAND	Johns Hopkins Sch. of Public Health	-	1	4	-	1	1
MASSACHUSETTS	Harvard School of Public Health	-	-	8	-	-	1
	Massachusetts Institute of Technology	-	6	4	-	3	2
	University of Massachusetts Lowell	11	19	15	4	11	1
MICHIGAN	University of Michigan	-	23	3	-	19	2
MISSOURI	University of Missouri, Columbia	-	13	15	-	5	-
	University of Missouri, Rolla	2	-	-	3	1	1
NEVADA	University of Nevada	7	8	-	2	-	-
NEW JERSEY	Rutgers University*	-	5	6	-	18	2
	Thomas Edison State College	111	-	-	32	-	-
NEW MEXICO	University of New Mexico	-	15	-	-	7	-
NEW YORK	New York Univ. Medical Center**	-	-	4	-	-	1
	State Univ. of New York, Buffalo	18	3	-	-	3	-
NORTH CAROLINA	East Carolina University	1	-	-	-	-	-
	Univ. of North Carolina, Chapel Hill	-	5	1	-	2	1
OHIO	Medical College of Ohio	-	8	11	-	1	2
	University of Cincinnati	-	21	-	-	6	-
	University of Findlay (see note)	3	-	-	2	-	-
	Ohio State University	-	7	5	-	5	-
OREGON	Oregon State University	18	13	-	4	8	-
PENNSYLVANIA	Bloomsburg Univ. of Pennsylvania	5	-	-	2	-	-
	Dickinson College	Inactive	-	-	-	-	-
	University of Pittsburgh	-	1	-	-	2	-
SOUTH CAROLINA	Clemson University	-	14	4	-	8	-
	Francis Marion College	5	-	-	4	-	-
TENNESSEE	University of Tennessee, Knoxville	8	20	11	2	9	1
TEXAS	Texas A&M University	10	19	12	8	12	4
UTAH	University of Utah	-	3	10	-	1	1
WASHINGTON	Washington State Univ., Tri-Cities	2	6	-	-	1	-
WISCONSIN	University of Wisconsin, Madison	-	22	23	-	6	7
TOTALS		237	460	223	84	206	39

*Program suspended; students are being allowed to complete their degrees.

**Estimated.

NOTE: The health physics major at the University of Findlay was discontinued in 1995. Future health physics students will receive their degrees within the occupational health and safety program.