

# ACS Committee On Professional Training 1996 Annual Report

The number of bachelor's degree graduates in chemistry from colleges and universities whose undergraduate chemistry programs are approved by the American Chemical Society increased 9.6% in the 1995-96 academic year. The 10,902 bachelor's degrees that were reported is a record high since ACS began publishing these data in 1945. The number of master's degrees from these departments increased by 12%, and the number of Ph.D. degrees granted in chemistry was the same as in the 1994-95 academic year.

The percentage of ACS certified baccalaureate graduates for 1995-96 was 40%, the same as in 1994-95. (Certified graduates are those who have completed a curriculum that meets the guidelines specified by ACS and who are eligible for full membership in ACS; noncertified graduates may become associate members of ACS upon graduation and full members after three years of professional experience or a higher degree in a chemical science.)

Total numbers of bachelor's degrees (certified and noncertified), master's degrees, and Ph.D. degrees awarded for the 1995-96 academic year by departments whose undergraduate chemistry programs are ACS approved are listed by institution in the large table at the end of this report and are summarized in the two smaller tables.

These tables also include numbers of chemical engineering graduates from institutions whose programs are accredited by the American Institute of Chemical Engineers (AIChE) and the Accreditation Board for Engineering & Technology (ABET). (These departments are not required to report their data to the ACS Committee on Professional Training, so the number of departments included varies each year.) Also accompanying this report is a table with information on graduate-student enrollment in chemistry

Summary of data from departments offering an ACS-approved program, 1992-96

	Bachelor's				Master's		Doctorates	
	Number of schools <sup>a</sup>	Graduates (totals)	Certified graduates <sup>b</sup>	Noncertified graduates	Number of schools	Graduates	Number of schools	Graduates
<b>CHEMISTRY</b>								
1996	616	10,902	4,309	6,593	315	2,098	190	2,127
1995	614	9,947	3,971	5,976	317	1,878	190	2,127
1994	608	9,443	3,912	5,531	317	1,803	188	2,202
1993	603	8,800	3,605	5,195	313	1,683	191	2,140
1992	601	8,435	3,604	4,831	314	1,617	192	2,202
<b>CHEMICAL ENGINEERING<sup>c</sup></b>								
1996	141	6,229	6,229	—	133	1,157	116	690
1995	134	5,749	5,749	—	127	1,040	112	584
1994	123	4,516	4,516	—	116	910	101	612
1993	104	3,164	3,164	—	96	705	84	435
1992	112	3,060	3,060	—	107	769	92	539

a Data not submitted from two ACS-approved programs. b Includes graduates certified in approved options. c Chemical engineering departments are not required to report their data to CPT, so the number of departments included in this category varies from year to year.

Graduate student enrollments in departments whose undergraduate chemistry programs are ACS approved

	Number of departments	First-year graduate students		All graduate students	
		Full time	Part time	Full time	Part time
<b>M.S. DEPARTMENTS<sup>a</sup></b>					
Fall 1995	127	411	333	1,405	806
Fall 1994	127	501	267	1,525	876
Fall 1993	127	515	249	1,247	855
Fall 1992	124	524	246	1,447	858
Fall 1991	124	511	262	1,424	909
<b>Ph.D. DEPARTMENTS</b>					
Fall 1995	189	3,933	232	17,421	1,405
Fall 1994	190	3,708	219	16,982	1,199
Fall 1993	188	3,636	206	16,289	1,167
Fall 1992	191	3,649	170	15,926	995
Fall 1991	192	3,736	267	16,864	1,170

a Departments whose highest offering is the master's degree in chemistry.

### Summary of totals from 1996 reports from departments offering an ACS-approved program

	Schools reporting	Men	Women	Total
<b>CHEMISTRY<sup>a</sup></b>				
<b>Bachelor's, total</b>	616	6,260	4,642	10,902
Certified	—	2,563	1,746	4,309
Noncertified	—	3,698	2,895	6,593
<b>Master's</b>	315	1,186	912	2,098
<b>Doctorates</b>	190	1,475	652	2,127
<b>CHEMICAL ENGINEERING<sup>b</sup></b>				
<b>Bachelor's, certified</b>	141	4,187	2,042	6,229
<b>Master's</b>	133	892	265	1,157
<b>Doctorates</b>	116	563	127	690

<sup>a</sup> Data not submitted from two ACS-approved programs.  
<sup>b</sup> Report forms were sent to 146 schools; only 141 departments responded.

departments with ACS-approved undergraduate programs.

The number of bachelor's degrees in chemical engineering granted by the 141 AIChE/ABET-accredited departments that reported in 1996 increased 8.3%. The number of chemical engineering master's degrees increased 11%, and Ph.D. degrees increased 18%. Seven more chemical engineering departments reported data to ACS in 1996 than in 1995.

The chemistry programs at ACS-approved schools are reevaluated at five-year intervals. There were 617 colleges and universities on the approved list at the end of calendar-year 1996. During 1996, the committee studied the reports of 281 chemistry programs at approved schools, and 13 reports from schools applying for ACS approval. Each evaluation involved a review of extensive documentation submitted by the department chair describing the current status of the program.

Two schools were added to the ACS-approved list by CPT, seven additional programs were placed on probation, and one was removed from probationary status. No schools were removed from the approved list. Visiting associates of the committee made on-site visits to seven schools.

Students may receive certified degrees

in chemistry or in one of the ACS-approved options in biochemistry, chemical physics, chemistry education, environmental chemistry, materials, or polymers. By the end of the 1996–97 academic year, the committee had approved 84 programs with a biochemistry option, three with a chemical physics option, five in chemistry education, eight in environmental chemistry, one in materials, and 12 with a polymers option.

The committee completed the revision of the sixth edition of "Planning for Graduate Work in Chemistry." CPT also

approved the newly revised topical supplements to the ACS guidelines. The supplements provide advice on appropriate content for a variety of curricular matters but are not intended to be prescriptive. Both the graduate study brochure and the supplements were distributed to all ACS-approved programs. Additional copies are available free from the ACS Office of Professional Training, phone (800) 227-5558 ext. 4589.

The final report of the CPT survey of doctoral programs was published as a special insert in the spring 1997 CPT Newsletter and in the November 1997 issue of the *Journal of Chemical Education*. The report is also available on the World Wide Web (<http://www.acs.org/cpt/b1.htm>). The final report of the survey of master's degree programs has been written and will be published early in 1998. After extensive discussions, the committee voted to require biochemistry for ACS approval and for student certification. Details of the new biochemistry requirement are being discussed by CPT and will be published in the winter 1998 CPT Newsletter for comment by the chemistry community before a final plan of implementation is adopted.

The committee would like to acknowledge and thank the visiting associ-

### Committee members, 1996

#### Sally Chapman

*committee chair*

Barnard College, New York City

#### Dennis H. Evans

University of Delaware, Newark

#### Slayton A. Evans Jr.

University of North Carolina, Chapel Hill

#### Gordon A. Hamilton

Pennsylvania State University, University Park

#### Michael Jaffe

Hoechst Celanese Corp.

#### Edward N. Kresge

Exxon Chemical Co.

#### Mitsuru Kubota

Harvey Mudd College, Claremont, Calif.

#### Dale W. Margerum

Purdue University, West Lafayette, Ind.

#### Jerry R. Mohrig

Carleton College, Northfield, Minn.

#### C. Bradley Moore

University of California, Berkeley

#### Jeanne E. Pemberton

University of Arizona, Tucson

#### C. Dale Poulter

University of Utah, Salt Lake City

#### Walter S. Trahanovsky

Iowa State University, Ames

#### Norman C. Craig, consultant

Oberlin College, Oberlin, Ohio

#### C. David Gutsche, consultant

Texas Christian University, Forth Worth

#### Herbert D. Kaesz, consultant

University of California, Los Angeles

#### Cathy A. Nelson, committee secretary

American Chemical Society

ates of the committee who conducted on-site visits in 1996: Philip J. Chenier, University of Wisconsin, Eau Claire; Alice Cunningham, Agnes Scott College (retired), Decatur, Ga.; Franklin P. DeHaan, Occidental College, Los Angeles; David M. Lemal, Dartmouth College; Manfred G. Reinecke, Texas Christian University, Fort Worth; James E. Swartz, Grinnell College, Grinnell, Iowa; and David W. Thompson, College of William and Mary, Williamsburg, Va. ◀

# Chemistry and chemical engineering degrees awarded by schools offering an ACS-approved program, 1995-96

	CHEMISTRY				CHEMICAL ENGINEERING				CHEMISTRY				CHEMICAL ENGINEERING		
	Bachelor's certified		M.S.	Ph.D.	B.S.	M.S.	Ph.D.		Bachelor's certified		M.S.	Ph.D.	B.S.	M.S.	Ph.D.
	Yes	No							Yes	No					
<b>A</b>															
Abilene Christian U	5	2	—	—					5	25	6	—			
Adelphi U	0	5	3	—					8	16	2	—			
Agnes Scott C	0	0	—	—					4	46	6	—	49	5	—
Akron, U of	12	3	0	10	(a)				10	9	7	—			
Alabama, U of									8	20	3	—			
Birmingham	3	6	3	3					3	24	6	—			
Huntsville	4	1	2	—	27	3	—		3	8	—	—			
Tuscaloosa	0	10	6	11	38	5	0		1	5	—	—			
Alaska Fairbanks, U of	6	2	4	2				<b>California, U of</b>							
Albion C	2	15	—	—				Berkeley	43	37	11	64	95	6	13
Albright C	9	8	—	—				Davis	29	7	6	19	39	3	2
Alfred U	3	1	—	—				Irvine	12	64	12	17			
Allegheny C	0	10	—	—				Los Angeles	8	222	13	26	43	8	4
Alma C	3	14	—	—				Riverside	16	0	9	4			
American U	3	0	3	3				San Diego	86	16	17	30	26	4	1
Amherst C	8	2	—	—				Santa Barbara	13	6	10	13	26	3	7
Andrews U	3	1	—	—				Santa Cruz	13	23	5	10			
Appalachian State U	5	10	1	—				<b>Calvin C</b>	7	12	—	—			
Arizona State U	25	14	12	17	45	9	3	<b>Canisius C</b>	8	5	—	—			
Arizona, U of	13	21	15	10	24	6	2	<b>Capital U</b>	2	0	—	—			
Arkansas State U	1	6	5	—				<b>Carleton C</b>	9	25	—	—			
Arkansas Tech U	2	2	—	—				<b>Carnegie Mellon U</b>	19	3	4	8	58	7	18
Arkansas, U of								<b>Carroll C</b>	2	3	—	—			
Fayetteville	8	8	4	6	59	8	3	<b>Carthage C</b>	4	3	—	—			
Little Rock	2	7	4	—				<b>Case Western Reserve U</b>	5	18	17	11	39	16	6
Ashland U	2	0	—	—				<b>Catholic U of America</b>	1	3	5	2			
Auburn U	19	0	4	5	72	9	8	<b>Centenary C of Louisiana</b>	2	1	—	—			
Augsburg C	15	12	—	—				<b>Central Arkansas, U of</b>	0	10	—	—			
Augustana C								<b>Central C</b>	1	8	—	—			
Illinois	1	5	—	—				<b>Central Connecticut State U</b>	4	4	2	—			
South Dakota	3	5	—	—				<b>Central Florida, U of</b>	15	7	7	—			
Austin C	2	9	—	—				<b>Central Michigan U</b>	7	14	5	—			
Austin Peay State U	0	14	—	—				<b>Central Missouri State U</b>	0	3	—	—			
<b>B</b>								<b>Central Oklahoma, U of</b>	5	17	—	—			
Baldwin-Wallace C	1	30	—	—				<b>Central State U</b>	0	3	—	—			
Ball State U	13	10	6	—				<b>Centre C</b>	5	0	—	—			
Barnard C	4	7	—	—				<b>Charleston, C of</b>	18	26	—	—			
Bates C	5	15	—	—				<b>Chatham C</b>	6	0	—	—			
Baylor U	3	21	3	1				<b>Chestnut Hill C</b>	2	6	—	—			
Beaver C	2	6	—	—				<b>Chicago State U</b>	0	13	—	—			
Beloit C	0	22	—	—				<b>Chicago, U of</b>	43	10	32	24			
Bemidji State U	3	11	—	—				<b>Christian Brothers C<sup>b</sup></b>					2	—	—
Benedictine U	15	4	—	—				<b>Cincinnati, U of</b>	28	0	17	19	61	12	3
Birmingham-Southern C	3	4	—	—				<b>Citadel, The</b>	1	1	—	—			
Bloomsburg U	4	1	—	—				<b>City U of New York</b>							
Boise State U	1	6	—	—				Graduate Center				14			
Boston C	10	8	1	12				Brooklyn C	0	16	2	—			
Boston U	27	4	7	4				City C	1	20	14	—	18	14	3
Bowdoin C	0	32	—	—				Herbert H. Lehman C	8	2	—	—			
Bowling Green State U	7	11	7	2				Hunter C	4	5	—	—			
Bradley U	1	10	0	—				Queens C	0	15	8	—			
Brandeis U	0	10	7	11				<b>Clarion U</b>	3	5	—	—			
Brigewater State C	4	16	1	—				<b>Clark U</b>	10	12	4	3			
Brigham Young U	16	56	8	10	42	5	1	<b>Clarkson U</b>	7	3	9	5	67	3	7
Brown U	0	42	6	9	8	0	2	<b>Clemson U</b>	16	3	2	8	55	9	3
Bryn Mawr C	8	0	1	2				<b>Cleveland State U</b>	11	0	14	7	13	16	0
Bucknell U	10	18	6	—	16	0	—	<b>Coe C</b>	1	4	—	—			
Butler U	4	13	2	—				<b>Colby C</b>	1	16	—	—			
<b>C</b>								<b>Colgate U</b>	14	5	—	—			
California Institute of Tech	16	3	3	36	8	12	16	<b>Colorado C</b>	7	19	—	—			
California Polytech State U	11	51	—	—				<b>Colorado School of Mines</b>	8	0	3	5	81	14	5
California State Polytech U	7	11	7	—	(a)			<b>Colorado State U</b>	12	8	7	17	28	9	3
California State U								<b>Colorado, U of</b>							
Bakersfield	1	11	—	—				Boulder	5	67	7	27	52	16	4
Chico	0	6	—	—				Colorado Springs	7	3	—	—			
Dominguez Hills	4	2	—	—				Denver	8	5	6	—			
Fresno	8	23	2	—				<b>Columbia U</b>	10	3	33	24	67	20	8
								<b>Concordia C</b>	1	6	—	—			
								<b>Connecticut C</b>	1	4	—	—			

	CHEMISTRY				CHEMICAL ENGINEERING				CHEMISTRY				CHEMICAL ENGINEERING		
	Bachelor's certified		M.S.	Ph.D.	B.S.	M.S.	Ph.D.		Bachelor's certified		M.S.	Ph.D.	B.S.	M.S.	Ph.D.
	Yes	No							Yes	No					
<b>Connecticut, U of</b>	10	3	9	10	11	15	3		6	16	2	19			
<b>Cooper Union<sup>b</sup></b>					24	10	—		4	6	—	—			
<b>Cornell C</b>	1	9	—	—					8	2	—	—			
<b>Cornell U</b>	15	57	11	38	66	3	13		1	4	—	—			
<b>Creighton U</b>	30	6	—	—					6	7	—	—			
<b>D</b>									5	9	—	—			
<b>Dartmouth C</b>	0	53	2	6					3	22	—	—			
<b>David Lipscomb U</b>	3	10	—	—					2	2	—	—			
<b>Davidson C</b>	3	9	—	—					2	3	—	—			
<b>Dayton, U of</b>	3	18	—	—	37	7	—		6	1	—	—			
<b>Delaware State U</b>	2	4	3	—					10	0	5	—			
<b>Delaware Valley C</b>	15	0	—	—					4	2	0	—			
<b>Delaware, U of</b>	24	37	5	19	38	5	18		3	4	—	—			
<b>Delta State U</b>	1	14	—	—					50	4	19	24			
<b>Denison U</b>	6	3	—	—					20	0	—	—			
<b>Denver, U of</b>	0	7	6	3					13	1	—	—			
<b>DePaul U</b>	1	16	6	—					14	9	2	4			
<b>DePauw U</b>	0	10	—	—					11	6	—	—			
<b>Detroit Mercy, U of</b>	1	6	10	0	6	10	0		2	3	—	—			
<b>Dickinson C</b>	2	4	—	—					2	2	—	—			
<b>District of Columbia, U of the</b>	4	2	—	—					7	0	—	—			
<b>Drake U</b>	3	2	—	—					0	3	—	—			
<b>Drew U</b>	3	6	—	—					25	9	—	—			
<b>Drexel U</b>	9	0	17	5	82	5	1		20	23	—	—			
<b>Duke U</b>	14	35	3	16					17	2	5	13	38	9	14
<b>Duquesne U</b>	11	0	12	3					3	23	2	4	(a)		
<b>E</b>									2	3	—	—			
<b>Earlham C</b>	1	6	—	—											
<b>East Carolina U</b>	14	6	5	—					7	4	3	—			
<b>East Stroudsburg U</b>	2	12	0	—					6	6	5	10	34	13	0
<b>East Tennessee State U</b>	4	9	5	—					3	0	9	2	37	15	3
<b>Eastern Illinois U</b>	3	4	8	—					31	1	12	—			
<b>Eastern Kentucky U</b>	3	18	1	—					5	6	—	—			
<b>Eastern Michigan U</b>	5	30	11	—											
<b>Eastern New Mexico U</b>	4	2	4	—					7	35	17	12	53	4	3
<b>Eastern Washington U</b>	0	19	—	—					4	0	—	—			
<b>Eckerd C</b>	2	2	—	—					123	43	17	7	73	21	11
<b>Elizabethtown C</b>	2	3	—	—					5	7	4	—			
<b>Elmhurst C</b>	4	13	—	—					2	8	2	—			
<b>Emory U</b>	5	43	9	14					8	18	14	2			
<b>Emporia State U</b>	5	9	3	—											
<b>Evansville, U of</b>	1	6	—	—					21	91	15	24			
<b>F</b>									8	0	—	—			
<b>Fairfield U</b>	6	3	—	—					2	0	—	—			
<b>Fairleigh Dickinson U</b>									0	1	—	—			
<b>Madison</b>	8	0	5	—					9	4	7	—			
<b>Teaneck</b>	5	4	2	—					0	6	—	—			
<b>Fisk U</b>	1	4	2	—											
<b>Florida A&amp;M U</b>	4	11	2	—					14	4	8	26	73	9	2
<b>Florida A&amp;M U/</b>					35	2	0		10	7	7	12	21	4	6
<b>Florida State U<sup>b</sup></b>									5	10	—	—			
<b>Florida Atlantic U</b>	13	8	12	—											
<b>Florida Institute of Tech</b>	1	1	1	2	12	11	0								
<b>Florida International U</b>	11	11	4	—											
<b>Florida State U</b>	1	64	4	6											
<b>Florida, U of</b>	12	46	9	28	43	6	2								
<b>Fordham U</b>	5	3	—	—											
<b>Fort Lewis C</b>	0	15	—	—											
<b>Framingham State C</b>	2	0	—	—											
<b>Francis Marion U</b>	1	10	—	—											
<b>Franklin &amp; Marshall C</b>	10	4	—	—											
<b>Furman U</b>	25	1	2	—											
<b>G</b>															
<b>Geneva C</b>	3	10	—	—											
<b>George Mason U</b>	13	4	3	—											
<b>George Washington U</b>	4	8	2	3											
<b>Georgetown U</b>	9	7	4	9											
<b>Georgia Institute of Tech</b>	43	0	20	10	164	18	18								
<b>Georgia Southern U</b>	7	11	—	—											
<b>Georgia State U</b>	4	6	11	2											
<b>Georgia, U of</b>															
<b>Gettysburg C</b>															
<b>Gonzaga U</b>															
<b>Goucher C</b>															
<b>Grand Valley State U</b>															
<b>Grinnell C</b>															
<b>Gustavus Adolphus C</b>															
<b>H</b>															
<b>Hamilton C</b>															
<b>Hamline U</b>															
<b>Hampden-Sydney C</b>															
<b>Hampton U</b>															
<b>Hartford, U of</b>															
<b>Hartwick C</b>															
<b>Harvard U</b>															
<b>Harvey Mudd C</b>															
<b>Haverford C</b>															
<b>Hawaii, U of</b>															
<b>Hendrix C</b>															
<b>Hiram C</b>															
<b>Hobart &amp; William Smith C</b>															
<b>Hofstra U</b>															
<b>Hollins C</b>															
<b>Holy Cross, C of the</b>															
<b>Hope C</b>															
<b>Houston, U of</b>															
<b>Howard U</b>															
<b>Humboldt State U</b>															
<b>I</b>															
<b>Idaho State U</b>															
<b>Idaho, U of</b>															
<b>Illinois Institute of Tech</b>															
<b>Illinois State U</b>															
<b>Illinois Wesleyan U</b>															
<b>Illinois, U of</b>															
<b>Chicago</b>															
<b>Springfield</b>															
<b>Urbana-Champaign</b>															
<b>Indiana State U</b>															
<b>Indiana U-Purdue U</b>															
<b>Fort Wayne</b>															
<b>Indianapolis</b>															
<b>Indiana U</b>															
<b>Bloomington</b>															
<b>Northwest</b>															



	CHEMISTRY				CHEMICAL ENGINEERING		
	Bachelor's certified		M.S.	Ph.D.	B.S.	M.S.	Ph.D.
	Yes	No					
<b>L</b>							
La Salle U	5	0	—	—			
Lafayette C	6	14	—	—	24	—	—
Lake Forest C	6	9	—	—			
Lamar U	5	1	9	—	9	12	1
Lawrence Technological U	7	0	—	—			
Lawrence U	2	7	—	—			
LeMoyné C	2	2	—	—			
Lebanon Valley C	8	6	—	—			
Lehigh U	11	11	13	5	42	13	9
Lewis & Clark C	2	7	—	—			
Lincoln U	0	12	—	—			
Long Island U							
Brooklyn Campus	2	8	3	—			
C. W. Post Campus	2	0	—	—			
Loras C	1	1	—	—			
Louisiana State U							
Baton Rouge	9	11	0	14	57	15	2
Shreveport	6	8	—	—			
Louisiana Tech U	8	0	5	—	45	5	0
Louisville, U of	7	4	3	2	—	16	5
Loyola C in Maryland	2	1	—	—			
Loyola Marymount U	2	9	—	—			
Loyola U							
New Orleans	1	7	—	—			
Chicago	19	0	1	6			
Luther C	1	11	—	—			
Lycoming C	2	2	—	—			
<b>M</b>							
Macalester C	7	4	—	—			
Maine, U of	3	0	3	1	(a)	5	7
Manhattan C	5	6	—	—	25	7	—
Mankato State U	4	9	1	—			
Marietta C	2	6	—	—			
Marist C	7	0	—	—			
Marquette U	0	3	8	3			
Marshall U	2	24	2	—			
Maryland, U of							
Baltimore County	5	44	8	10	24	8	3
College Park	22	49	2	8	49	6	10
Massachusetts Institute of Tech	35	0	9	43	103	44	27
Massachusetts, U of							
Amherst	4	5	11	10	28	3	8
Boston	6	8	2	—			
Dartmouth	1	7	2	—			
Lowell	2	4	7	25	18	8	—
McNeese State U	0	4	2	—			
Memphis, U of	0	9	4	8			
Mercer U	4	1	—	—			
Merrimack C	9	3	—	—			
Metropolitan State C of Denver	3	30	—	—			
Miami U	18	27	7	4			
Miami, U of	3	8	1	1			
Michigan State U	20	25	8	23	71	11	6
Michigan Technological U	17	0	6	3	115	8	1
Michigan, U of							
Ann Arbor	66	7	25	25	159	9	18
Dearborn	8	15	—	—			
Flint	1	8	—	—			
Middle Tennessee State U	1	17	7	1			
Middlebury C	1	15	—	—			
Midwestern State U	1	6	—	—			
Millersville U	4	6	—	—			
Millikin U	15	0	—	—			
Millsaps C	2	11	—	—			
Minnesota, U of							
Duluth	6	8	7	—	30	—	—
Twin Cities	76	0	11	30	133	6	41
Mississippi C	3	10	—	—			
Mississippi State U	1	5	6	9	57	6	1

	CHEMISTRY				CHEMICAL ENGINEERING		
	Bachelor's certified		M.S.	Ph.D.	B.S.	M.S.	Ph.D.
	Yes	No					
<b>N</b>							
Mississippi, U of	2	8	6	2	4	2	0
Missouri Western State C	5	8	—	—			
Missouri, U of							
Columbia	10	3	5	10	48	7	3
Kansas City	4	17	7	2			
Rolla	6	0	6	11	71	10	3
St. Louis	9	11	13	4			
Monmouth U	3	0	—	—			
Montana State U	2	7	3	5	36	10	2
Montana Tech of the U of Montana	2	3	1	—			
Montana, U of	4	1	1	1			
Montclair State U	6	18	2	—			
Moorhead State U	4	6	—	—			
Moravian C	4	0	—	—			
Morehouse C	14	0	—	—			
Morgan State U	6	11	—	—			
Mount Holyoke C	9	6	1	—			
Mount Saint Vincent, C of	0	2	—	—			
Muhlenberg C	5	10	—	—			
Murray State U	4	17	4	—			
Muskingum C	3	2	—	—			
<b>N</b>							
Nazareth C	3	0	—	—			
Nebraska Wesleyan U	0	2	—	—			
Nebraska, U of							
Kearney	1	14	—	—			
Lincoln	4	4	14	13	21	8	1
Omaha	7	1	—	—			
Nevada, U of							
Las Vegas	6	5	5	—			
Reno	7	6	3	6	11	—	—
New Hampshire, U of	11	4	9	8	28	0	2
New Jersey Institute of Tech <sup>b</sup>					49	11	6
New Jersey, C of	24	0	—	—			
New Mexico Highlands U	0	2	6	—			
New Mexico Inst of Mining & Tech	5	0	5	2			
New Mexico State U	0	21	10	6	22	4	3
New Mexico, U of	3	15	10	11	14	4	2
New Orleans, U of	4	7	13	4			
New York U	0	61	19	12			
Niagara U	1	2	—	—			
Norfolk State U	7	0	—	—			
North Alabama, U of	3	18	—	—			
North Carolina A&T State U	8	1	4	—	37	5	—
North Carolina Central U	0	11	0	—			
North Carolina State U	27	50	5	4	107	5	9
North Carolina, U of							
Asheville	2	3	—	—			
Chapel Hill <sup>d</sup>	63	40	18	28			
Charlotte	10	20	5	—			
Greensboro	6	6	2	—			
Wilmington	14	14	4	—			
North Dakota State U	8	3	7	4			
North Dakota, U of	4	3	2	4	18	7	—
North Texas, U of	3	7	10	5			
Northeast Louisiana U	3	1	6	—			
Northeastern Illinois U	1	8	5	—			
Northeastern U	0	0	3	10	28	8	3
Northern Arizona U	7	22	6	—			
Northern Colorado, U of	9	9	1	0			
Northern Illinois U	8	7	8	4			
Northern Iowa, U of	4	19	3	—			
Northern Kentucky U	0	7	—	—			
Northern Michigan U	0	15	2	—			
Northwest Missouri State U	0	2	—	—			
Northwestern State U of Louisiana	2	2	—	—			
Northwestern U	13	16	35	26	56	6	10
Notre Dame, U of	6	24	8	15	68	2	8

	CHEMISTRY				CHEMICAL ENGINEERING		
	Bachelor's certified		M.S.	Ph.D.	B.S.	M.S.	Ph.D.
	Yes	No					
<b>O</b>							
Oakland U	0	3	2	0			
Oberlin C	5	15	—	—			
Occidental C	0	27	—	—			
Ohio Northern U	5	3	—	—			
Ohio State U	29	18	21	18	50	17	7
Ohio U	13	33	2	6	32	8	0
Ohio Wesleyan U	2	8	—	—			
Oklahoma State U	3	7	6	4	53	11	1
Oklahoma, U of	7	27	19	12	48	7	4
Old Dominion U	3	12	4	—			
Oregon State U	12	0	3	10	29	11	2
Oregon, U of	1	24	14	11			
Otterbein C	1	11	—	—			
<b>P</b>							
<b>Pace U</b>							
New York	1	3	—	—			
Pleasantville	3	1	—	—			
Pacific Lutheran U	2	8	—	—			
Pacific, U of the	2	11	0	0			
Pennsylvania State U	8	30	14	26	140	7	11
Pennsylvania, U of	21	6	4	36	32	12	6
Philadelphia C of Pharmacy & Science	5	0	1	2			
Philadelphia C of Textiles & Science	7	0	—	—			
Pittsburg State U	3	3	0	—			
Pittsburgh, U of	15	41	7	16	52	15	11
Polytechnic U	3	0	3	11	15	13	5
Pomona C	3	21	—	—			
Portland State U	0	20	6	—			
Portland, U of	3	2	—	—			
Princeton U	21	12	24	22	25	2	12
Providence C	2	11	—	—			
Puerto Rico, U of							
Mayaguez	16	36	13	—	105	15	—
Rio Piedras	11	29	3	2			
Puget Sound, U of	9	3	—	—			
Purdue U	25	18	17	37	186	13	20
Purdue U Calumet	0	4	—	—			
<b>R</b>							
Ramapo C of New Jersey	1	3	—	—			
Randolph Macon C	1	3	—	—			
Randolph Macon Woman's C	2	2	—	—			
Redlands, U of	2	3	—	—			
Reed C	5	9	—	—			
Rensselaer Polytechnic Institute	15	0	7	13	81	4	11
Rhode Island C	2	7	—	—			
Rhode Island, U of	5	3	2	2	19	2	1
Rhodes C	2	5	—	—			
Rice U	4	9	10	11	34	4	7
Richard Stockton C of New Jersey	9	7	—	—			
Richmond, U of	0	20	—	—			
Rider U	7	4	—	—			
Ripon C	2	1	—	—			
Roanoke C	3	0	—	—			
Rochester Institute of Tech	7	15	2	—			
Rochester, U of	7	11	20	22	48	8	8
Rockhurst C	(a)	4	0	—			
Rollins C	4	0	—	—			
Roosevelt U	2	1	4	—			
Rose-Hulman Inst. of Tech	3	0	—	—	40	4	—
Rowan C of New Jersey	3	4	—	—			
Russell Sage C	3	1	—	—			
Rutgers U							
Camden	3	4	—	—			
New Brunswick	14	40	11	18	64	8	12
Newark	1	12	7	4			

	CHEMISTRY				CHEMICAL ENGINEERING		
	Bachelor's certified		M.S.	Ph.D.	B.S.	M.S.	Ph.D.
	Yes	No					
<b>S</b>							
Saginaw Valley State U	4	12	—	—			
St. Anselm C	2	5	—	—			
St. Benedict, C of/St. John's U	3	12	—	—			
St. Catherine, C of	0	3	—	—			
St. Cloud State U	5	10	—	—			
St. John Fisher C	0	5	—	—			
St. John's U	4	0	1	—			
St. Joseph C	0	3	4	—			
St. Joseph's U	7	4	9	—			
St. Lawrence U	3	3	—	—			
St. Louis U	6	32	3	—			
St. Mary's C	4	4	—	—			
St. Michael's C	2	0	—	—			
St. Olaf C	2	37	—	—			
St. Peter's C	2	6	—	—			
St. Thomas, U of	3	8	—	—			
St. Vincent C <sup>e</sup>	8	4	—	—			
Salem State C	0	0	—	—			
Salisbury State U	4	0	—	—			
Sam Houston State U	0	6	2	—			
San Diego State U	9	6	8	1			
San Diego, U of	6	10	—	—			
San Francisco State U	2	22	7	—			
San Francisco, U of	1	4	4	—			
San Jose State U	5	34	28	—			(a)
Santa Clara U	0	8	—	—			
Scranton, U of	7	12	12	—			
Seattle U	7	12	—	—			
Seton Hall U	9	6	13	2			
Seton Hill C <sup>e</sup>	4	0	—	—			
Shippensburg U	5	2	3	—			
Siena C	3	2	—	—			
Simmons C	2	9	—	—			
Skidmore C	0	14	—	—			
Smith C	3	21	—	—			
Sonoma State U	0	15	—	—			
South Alabama, U of	1	5	—	—	26	1	—
South Carolina, U of	6	22	3	17	29	8	2
South Dakota School of Mines & Tech	4	0	4	—	28	6	—
South Dakota State U	1	12	3	4			
South Dakota, U of	2	10	5	—			
South Florida, U of	8	93	8	6	32	8	3
Southeast Missouri State U	5	9	—	—			
Southeastern Louisiana U	8	0	—	—			
Southern California, U of	9	2	3	17	26	14	1
Southern Colorado, U of	1	6	2	—			
Southern Connecticut State U	2	6	0	—			
Southern Illinois U							
Carbondale	2	19	7	7			
Edwardsville	8	20	9	—			
Southern Methodist U	3	3	0	—			
Southern Mississippi, U of	1	15	3	2			
Southern Oregon State C	6	1	—	—			
Southern U and A&M C	11	2	8	—			
Southwest Missouri State U	3	19	1	—			
Southwest State U	0	4	—	—			
Southwest Texas State U	12	0	3	—			
Southwestern Louisiana, U of	2	2	2	—	11	3	—
Southwestern Oklahoma State U	2	7	—	—			
Stanford U	8	12	4	36	24	15	8
State U of New York							
Albany	8	0	3	5			
Binghamton	11	47	3	9			
Buffalo	10	8	7	25	61	12	9
Stony Brook	11	22	11	18			
C at Brockport	3	5	—	—			
C at Buffalo	4	5	3	—			
C at Cortland	2	5	—	—			
C at Fredonia	6	1	0	—			



	CHEMISTRY				CHEMICAL ENGINEERING				CHEMISTRY				CHEMICAL ENGINEERING		
	Bachelor's certified		M.S.	Ph.D.	B.S.	M.S.	Ph.D.		Bachelor's certified		M.S.	Ph.D.	B.S.	M.S.	Ph.D.
	Yes	No							Yes	No					
C at Geneseo	10	22	—	—											
C at New Paltz	1	3	0	—											
C at Old Westbury	0	8	—	—											
C at Oneonta	0	9	—	—											
C at Oswego	11	12	5	—											
C at Plattsburgh	4	14	—	—											
C at Potsdam	2	4	—	—											
C at Purchase	3	3	—	—											
State U of West Georgia	2	3	—	—											
Stephen F. Austin State U	2	4	1	—											
Stetson U	2	5	—	—											
Stevens Institute of Tech	20	0	8	0	34	14	5								
Suffolk U	3	1	—	—											
Susquehanna U	2	7	—	—											
Swarthmore C	8	6	—	—											
Syracuse U	7	0	4	7	15	9	1								
<b>T</b>															
Temple U	3	11	8	7											
Tennessee Technological U	3	23	6	—	36	5	1								
Tennessee, U of															
Knoxville	5	22	3	16	39	9	3								
Chattanooga	18	27	—	—											
Martin	6	11	—	—											
Texas A&M U															
College Station	20	22	9	46	135	17	14								
Commerce	3	9	3	—											
Kingsville	1	0	3	—	23	11	—								
Texas Christian U	4	3	1	3											
Texas Southern U	5	4	2	—											
Texas Tech U	17	10	12	11	(a)										
Texas, U of															
Arlington	8	10	4	6											
Austin	109	0	17	38	96	16	27								
Dallas	10	0	6	4											
El Paso	0	0	9	0											
San Antonio	11	0	2	—											
Texas Woman's U	0	6	3	—											
Thiel C	1	1	—	—											
Toledo, U of	12	11	6	12	33	11	1								
Towson State U	4	3	—	—											
Tri-State U <sup>b</sup>					12	—	—								
Trinity C	6	11	0	—											
Trinity U	24	2	—	—											
Truman State U	19	0	—	—											
Tufts U	0	14	4	7	26	8	1								
Tulane U	0	17	5	4	34	6	1								
Tulsa, U of	11	3	—	—	50	12	4								
Tuskegee U	3	8	2	—	11	—	—								
<b>U</b>															
Union C	7	5	—	—											
Ursinus C	16	11	—	—											
U.S. Air Force Academy	12	1	—	—											
U.S. Naval Academy	(a)														
Utah State U	8	14	4	5											
Utah, U of	8	27	3	25	30	3	3								
<b>V</b>															
Valparaiso U	4	27	—	—											
Vanderbilt U	2	36	17	6	31	4	4								
Vassar C	6	3	0	—											
Vermont, U of	9	4	1	5											
Villanova U	8	0	13	1	34	10	—								
Virginia Commonwealth U	9	30	2	10											
Virginia Military Institute	1	0	—	—											
Virginia Polytechnic Institute & State U	23	32	13	18	85	5	5								
Virginia, U of	12	55	5	17	56	22	6								
Viterbo C	1	2	—	—											
<b>W</b>															
Wabash C	3	10	—	—											
Wagner C	4	0	—	—											
Wake Forest U	8	3	3	6											
Washburn U of Topeka	2	8	—	—											
Washington C	2	3	—	—											
Washington State U	4	0	25	6	20	18	0								
Washington U	3	9	18	10	50	9	7								
Washington & Jefferson C	1	12	—	—											
Washington & Lee U	0	13	—	—											
Washington, U of	22	101	26	21	66	2	10								
Wayne State U	15	18	8	18	33	17	3								
Waynesburg C	3	4	—	—											
Weber State U	5	5	—	—											
Wellesley C	9	24	—	—											
Wesleyan U	5	3	2	3											
West Chester U	7	19	5	—											
West Florida, U of	8	1	—	—											
West Virginia U Institute of Tech <sup>b</sup>					22	—	—								
West Virginia State C	1	8	—	—											
West Virginia U	6	25	10	6	35	11	3								
Western Carolina U	3	10	6	—											
Western Connecticut State U	1	3	—	—											
Western Illinois U	2	6	2	—											
Western Kentucky U	1	44	3	—											
Western Maryland C	0	5	—	—											
Western Michigan U	14	14	2	—											
Western Washington U	14	19	1	—											
Westminster C	1	1	—	—											
Wheaton C															
Illinois	5	7	—	—											
Massachusetts	1	6	—	—											
Whitman C	1	14	—	—											
Whittier C	2	12	—	—											
Wichita State U	5	13	2	1											
Widener U	0	3	—	—	14	1	—								
Wilkes U	0	7	—	—											
Willamette U	3	4	—	—											
William & Mary, C of	63	6	6	—											
Williams C	0	38	—	—											
Winona State U	3	1	—	—											
Wisconsin, U of															
Eau Claire	7	30	—	—											
Green Bay	0	6	—	—											
La Crosse	5	13	—	—											
Madison	34	0	26	30	79	10	20								
Milwaukee	2	16	5	10											
Oshkosh	7	9	—	—											
Parkside	8	0	—	—											
Platteville	1	3	—	—											
River Falls	6	9	—	—											
Stevens Point	5	11	—	—											
Superior	1	1	—	—											
Wittenberg U	1	7	—	—											
Wooster, C of	4	13	—	—											
Worcester Polytechnic Inst	4	14	3	0	54	11	2								
Wright State U	15	11	14	—											
Wyoming, U of	5	4	5	7	22	5	1								
<b>X</b>															
Xavier U	6	4	—	—											
Xavier U of Louisiana	5	48	—	—											
<b>Y</b>															
Yale U	0	20	22	14	5	1	3								
Youngstown State U	9	53	8	—	9	—	—								
<b>TOTALS</b>	<b>4,309</b>	<b>6,593</b>	<b>2,098</b>	<b>2,127</b>	<b>6,229</b>	<b>1,157</b>	<b>690</b>								

**Note** For brevity, "B.S." and "M.S." are used to denote all bachelor's and master's degrees, respectively, in each column. **a** Data not submitted. **b** Listed on basis of accreditation by AIChE/ABET. **c** The chemistry programs at Mount Saint Vincent and Manhattan C are integrated into a combined department with instruction in chemistry located at Manhattan C. **d** UNC Curriculum in Applied Sciences degrees are combined with the chemistry department degrees. **e** St. Vincent C and Seton Hill C are integrated into a combined department.