



OHIO BOARD  
OF REGENTS

**Degree Production by Level, Sector, and Major**  
Ohio Compared to the U.S., 1980-2005

August 18, 2006

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# I. Ohio Degree Production Trends by Sector

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Ohio degree production per 100,000 population increased at all degree levels in all sectors over the 1980 to 2005 time period. Rates of growth were higher in the private sector, but absolute increases in degree production levels were higher in the public sector. In 2005, the public sector accounted for 77% of associate degree, 65% of bachelor's degree, and 63% of graduate and professional degree production.

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## All Institutions: (see Chart 1)

- Associate Degrees – 64% increase
  - 121 degrees per 100,000 to 198
- Bachelor's Degrees - 32% increase
  - 377 degrees per 100,000 to 497
- Graduate and Professional Degrees - 33% increase
  - 170 degrees per 100,000 to 226

## Public Institutions: (see Chart 2)

- Associate Degrees - 54% increase
  - 99 degrees per 100,000 to 152
- Bachelor's Degrees - 25% increase
  - 257 degrees per 100,000 to 321
- Graduate and Professional Degrees - 23% increase
  - 115 degrees per 100,000 to 142

## Private Institutions: (see Chart 3)

- Associate Degrees - 119% increase
  - 21 degrees per 100,000 to 46
- Bachelor's Degrees - 47% increase
  - 120 degrees per 100,000 to 176
- Graduate and Professional Degrees - 48% increase
  - 56 degrees per 100,000 to 83

**Chart 1. Ohio Trends by Degree Level for All Institutions, 1980-2005**

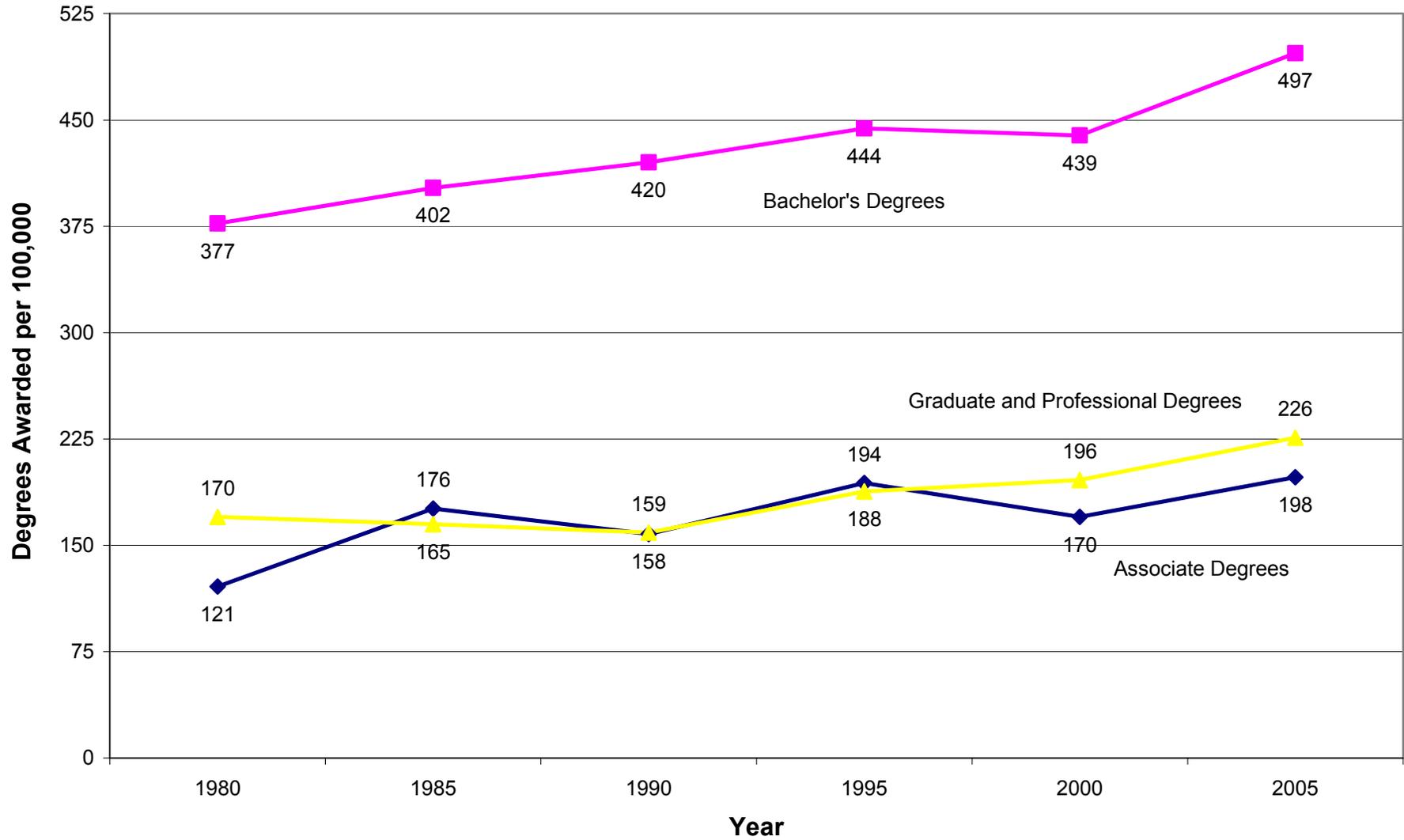
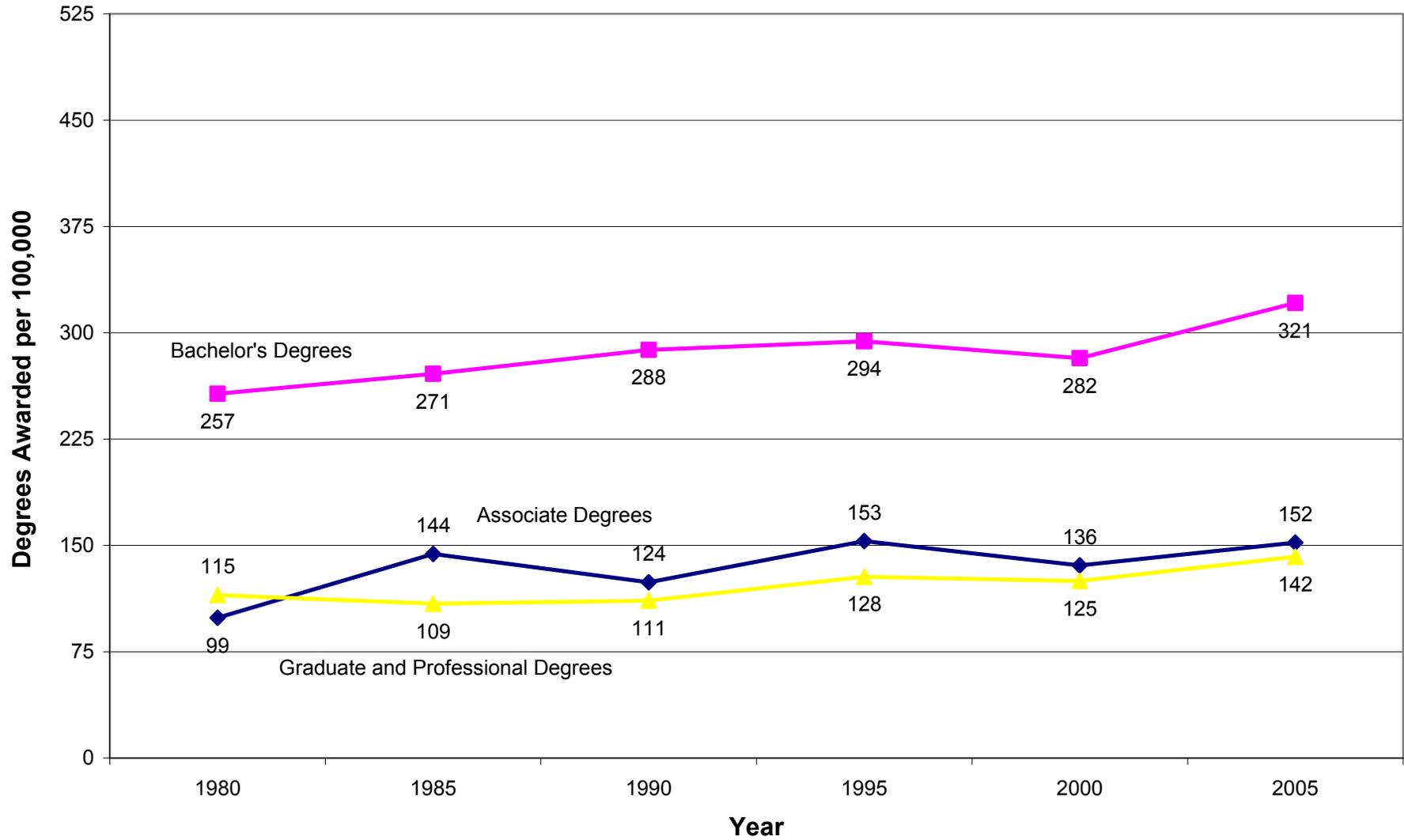
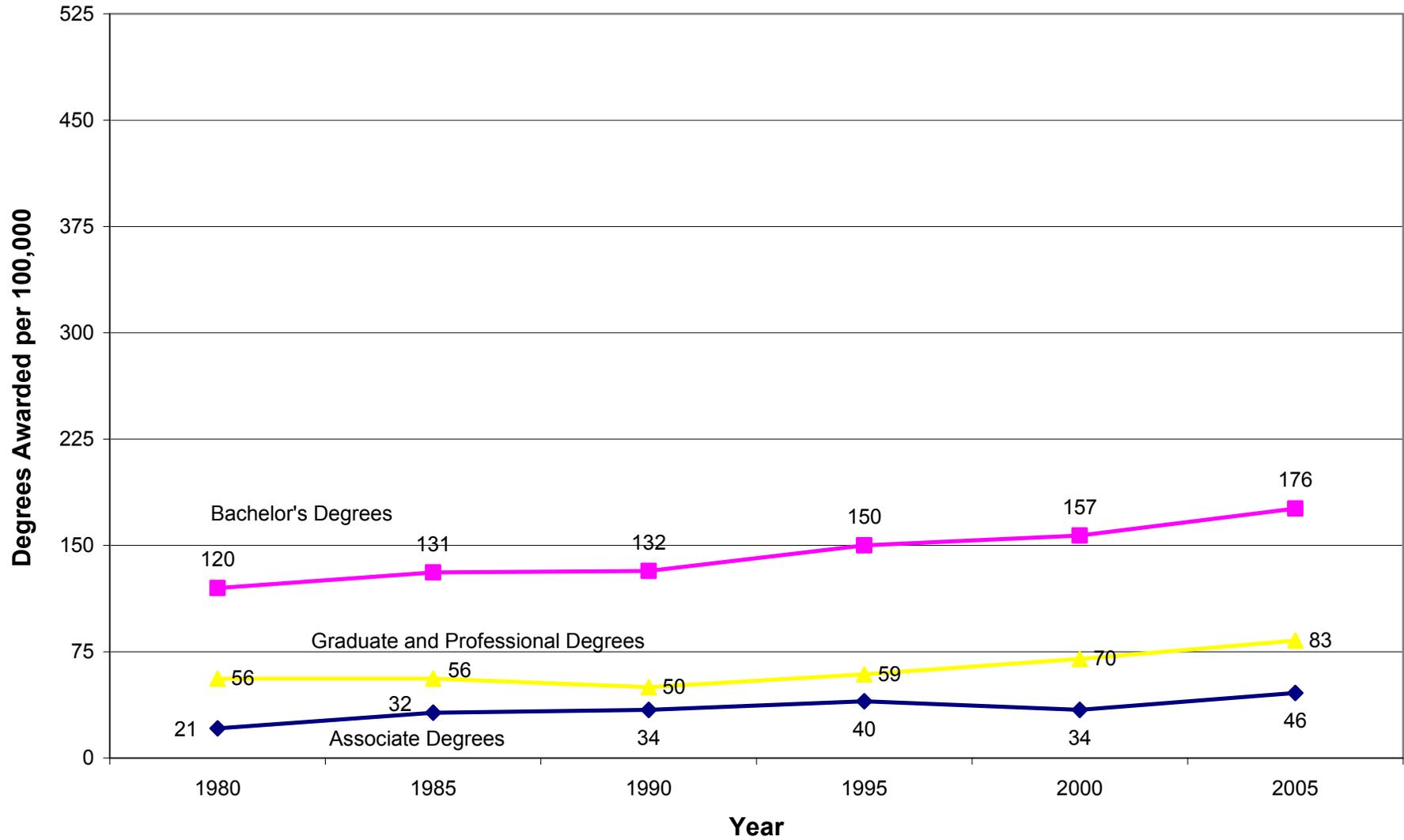


Chart 2. Ohio Trends by Degree Level at Public Institutions, 1980-2005



**Chart 3. Ohio Trends by Degree Level for Private Institutions, 1980-2005**



## II. Ohio to U.S. Comparisons

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In 2005, Ohio's bachelor's degree production per capita was 103% of the U.S. level, compared to 82% for associate degrees and 94% for graduate and professional degrees.

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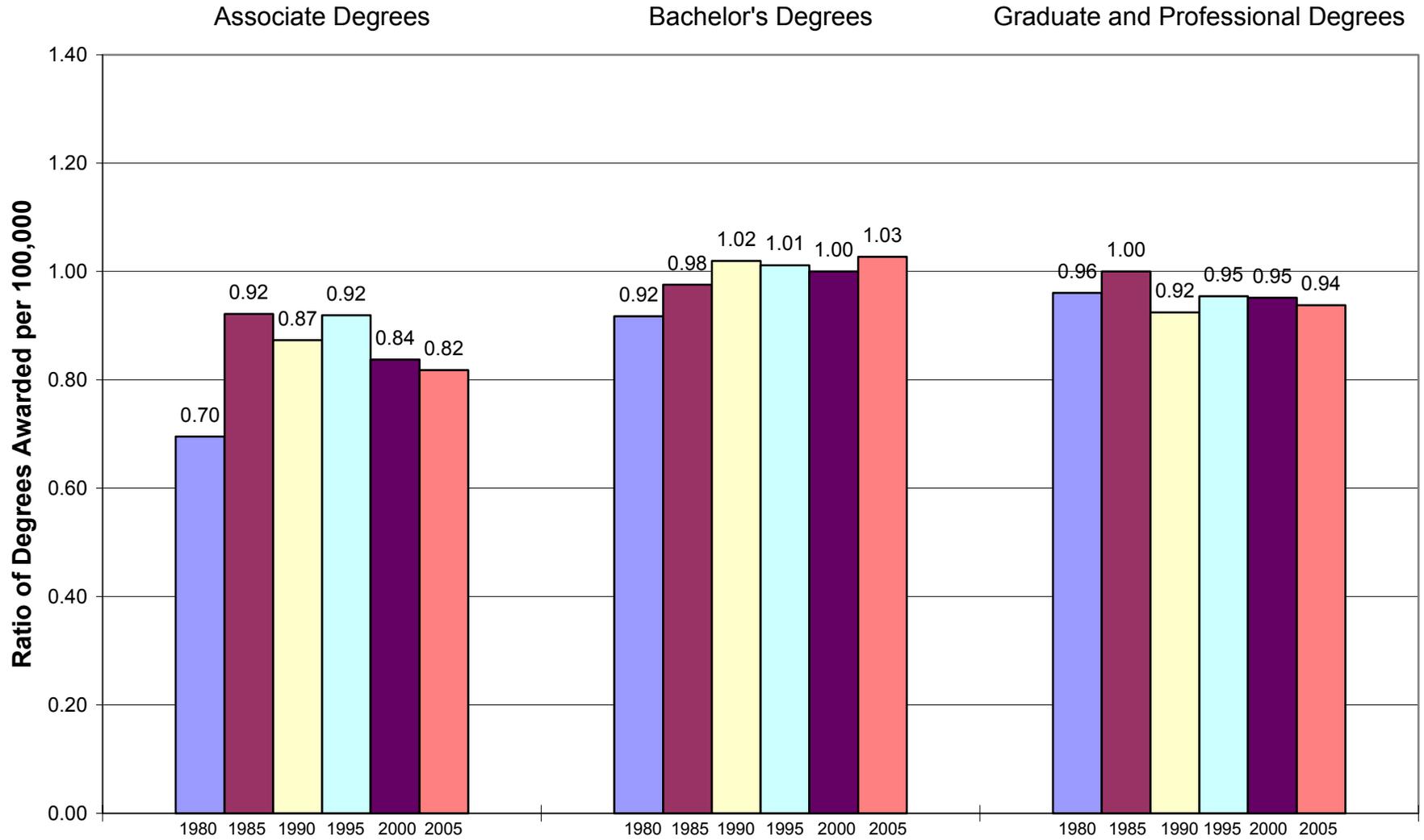
### Trends

- Ohio's bachelor's degree production per capita was 92% of the U.S. level in 1980 and reached 102% of the U.S. level in 1990. Bachelor's degree production in Ohio has equaled or exceeded the national level in 1995, 2000 and 2005.
- Ohio's associate degree production has experienced uneven growth over time. In 1980, Ohio's associate degree production per capita was 70% of the U.S. level. It rose sharply to 92% in 1985, fell to 87% in 1990, went back to 92% in 1995, and dropped to 82% in 2005.
- Graduate and professional degree production in Ohio has historically been at about 95% of the U.S. level, although in 1985 Ohio equaled the national level.

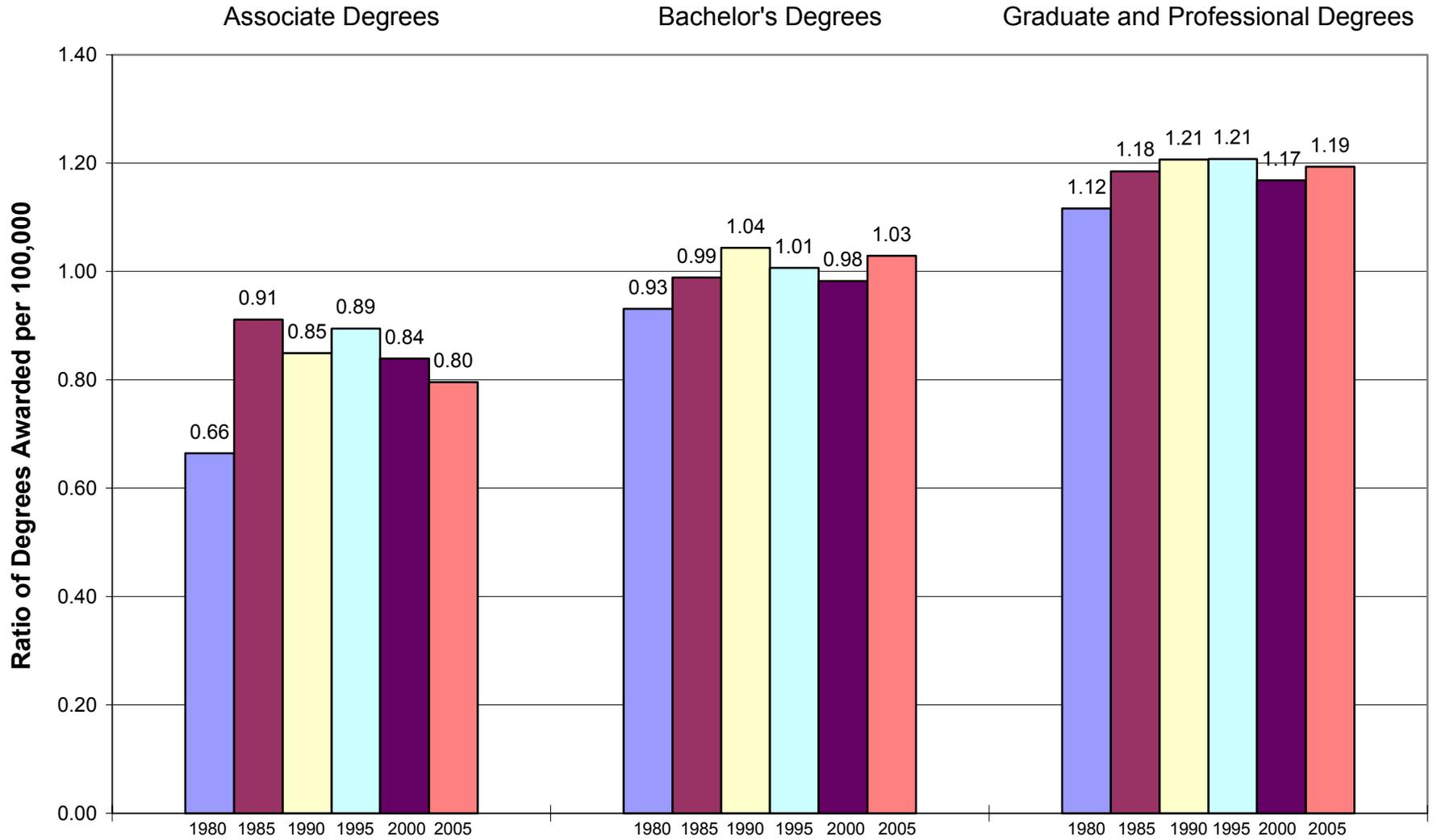
### Public/Private Comparisons

- Ohio's public and private sectors produce more bachelor's degrees per capita than their national counterparts. Per capita bachelor's degree production in 2005 was 103% of the national level at Ohio's public institutions and 102% of the national level at Ohio's private institutions.
- At the associate degree level, both the public and private sectors in Ohio lag behind their national counterparts in terms of degree production, with the public sector at 80% and the private sector at 90% of the national level.
- Per capita graduate and professional degree production at Ohio's public institutions was 119% of the national level in 2005. Ohio's private institutions produce fewer such graduates per capita than private institutions nationally (68% of the national level).

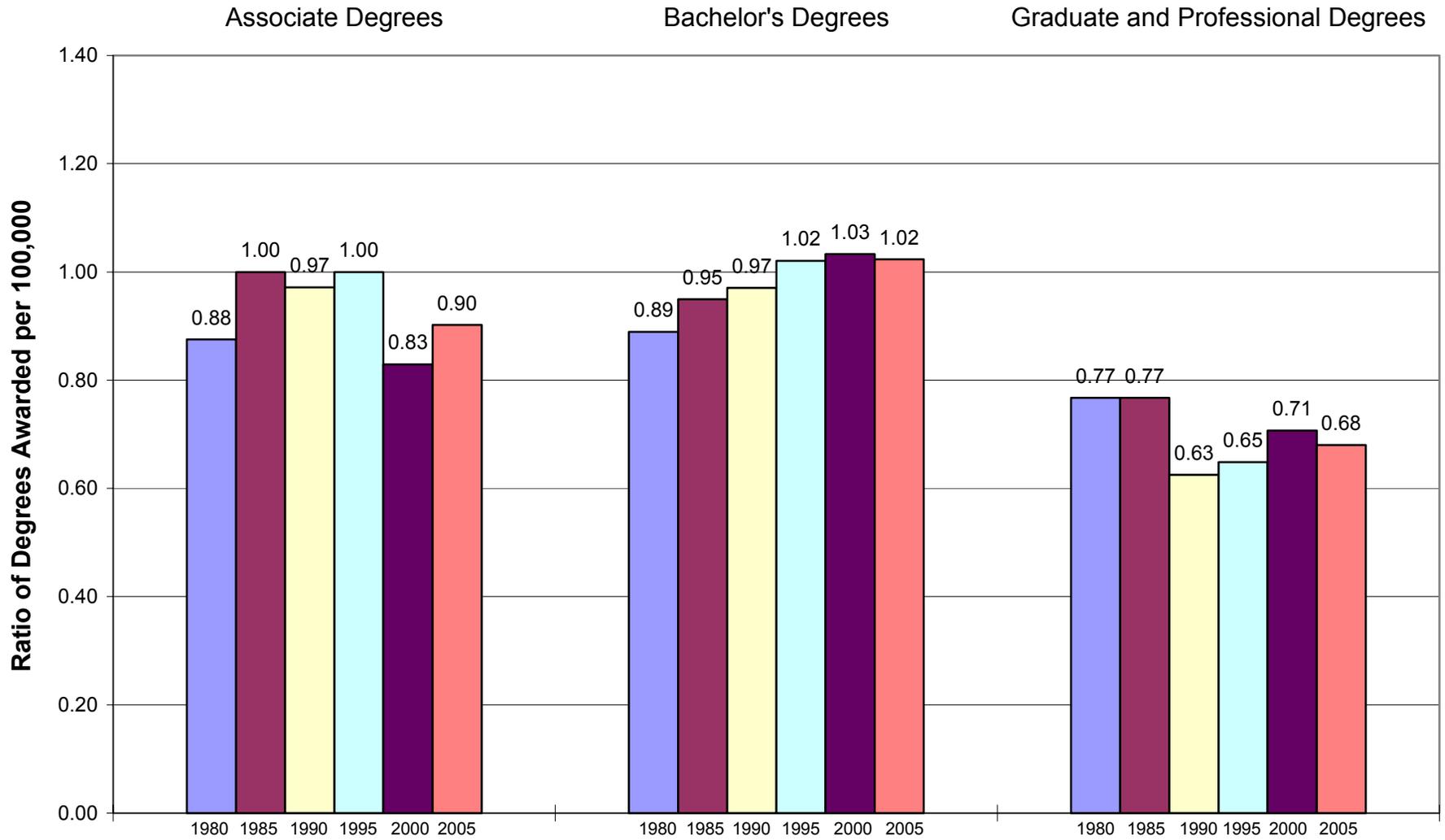
**Chart 4. Ratios of Ohio to U.S. Degree Production for All Institutions, 1980-2005**



**Chart 5. Ratios of Ohio to U.S. Degree Production for Public Institutions, 1980-2005**



**Chart 6. Ratios of Ohio to U.S. Degree Production for Private Institutions, 1980-2005**



# III. Degree Production Trends by Major

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There has been increased policy interest in the major fields of study of Ohio's higher education graduates, due to the role of science, technology, engineering and math (STEM) and health graduates in increasing economic growth and quality of life in Ohio. Two questions arise:

- 1) Is Ohio degree production increasing in all fields of study, especially STEM and health fields?
  - 2) Is Ohio "catching up" to the U.S. in the critical STEM and health fields?
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## Growth Rates by Major Field:

- If 1980 is taken as the starting point, Ohio's per capita associate degree production increased in all major fields. Engineering increased by 11%, from 18 to 20 degrees per 100,000 population from 1980 to 2005, while health production increased by 89% (28 to 53), science and math production increased by 167% (6 to 16), and all other majors increased by 59% (69 to 110).
- Total bachelor's degree production per capita in Ohio increased by 32% in Ohio from 1980 to 2005. Health degrees

per 100,000 population increased by 39% (23 to 32), science and math increased by 20% (35 to 42), engineering increased by 15% (27 to 31), and all other fields combined increased by 35% (291 to 392).

- Total graduate and professional degree production in Ohio increased by 33% from 1980 to 2005, with STEM and health fields experiencing faster growth rates. Health degrees per 100,000 increased by 61% (18 to 29), engineering increased by 67% (9 to 15), science and math increased by 40% (10 to 14), and all other majors increased by 27% (132 to 167).

## Ohio to U.S. Comparisons:

- In terms of associate degrees, Ohio exceeds the national level of degree production per 100,000 population in engineering (167%) and health (126%), comes close to the national level in science and math (94%), and lags far behind in all other fields combined (64%).
- Ohio exceeds national levels in bachelor's degrees per 100,000 population in engineering (115%), health (119%),

and “other” majors (103%), while lagging behind the nation in science and math degrees (81%).

- Ohio’s graduate and first professional degree production per 100,000 population is 107% of the national level in engineering, 94% in health, and 92% in “other fields.” Mirroring the results for bachelor’s degrees, science and math degree production is 82% of the national level.
- Aggregating majors into two groups (STEM/Health vs Other) and comparing Ohio degree production to the U.S. reveals that Ohio’s two-year sector is markedly different from the rest of the country. STEM and health associate degree production is 125% of national levels and “other” degree production is 64% of national levels. In terms of bachelor’s degrees, Ohio’s degree production in STEM/Health fields is 99% of national levels, compared to 103% in other fields. In terms of graduate and professional degrees, Ohio’s degree production in STEM/Health fields is 94% of national levels, compared to 92% in other fields.

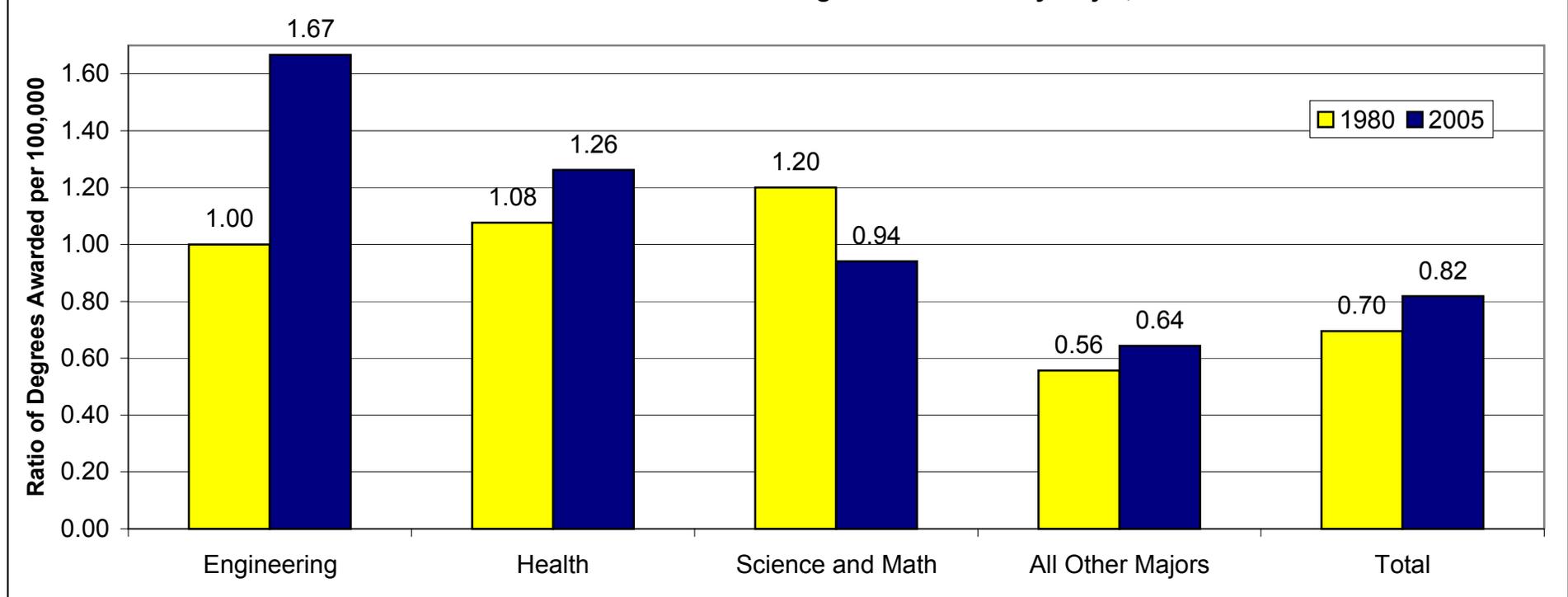
## Associate Degree Production by Major

**Table 1. Associate's Degrees per 100,000 Population, Ohio - All Institutions**

Major	1980	1985	1990	1995	2000	2005	% Change
Engineering	18	33	25	22	20	20	11%
Health	28	35	35	51	37	53	89%
Science and Math	6	13	5	6	9	16	167%
<b>STEM<sup>2</sup> Subtotal</b>	<b>52</b>	<b>81</b>	<b>65</b>	<b>79</b>	<b>66</b>	<b>89</b>	<b>71%</b>
All Other Majors	69	95	94	114	104	110	59%
<b>Total</b>	<b>121</b>	<b>176</b>	<b>158</b>	<b>194</b>	<b>170</b>	<b>198</b>	<b>64%</b>

Ohio's associate degree production has increased in all fields from 1980 to 2005, with especially large percentage increases in science and math (167%) and health (89%). In 2005, Ohio's per capita production of associate degrees was 67% higher in engineering, and 26% higher in health, than U.S. levels. However, Ohio was at only 64% of the U.S. level in non-STEM/Health fields.

**Chart 7. Ratio of Ohio to U.S. Associate Degree Production by Major, 1980 and 2005**



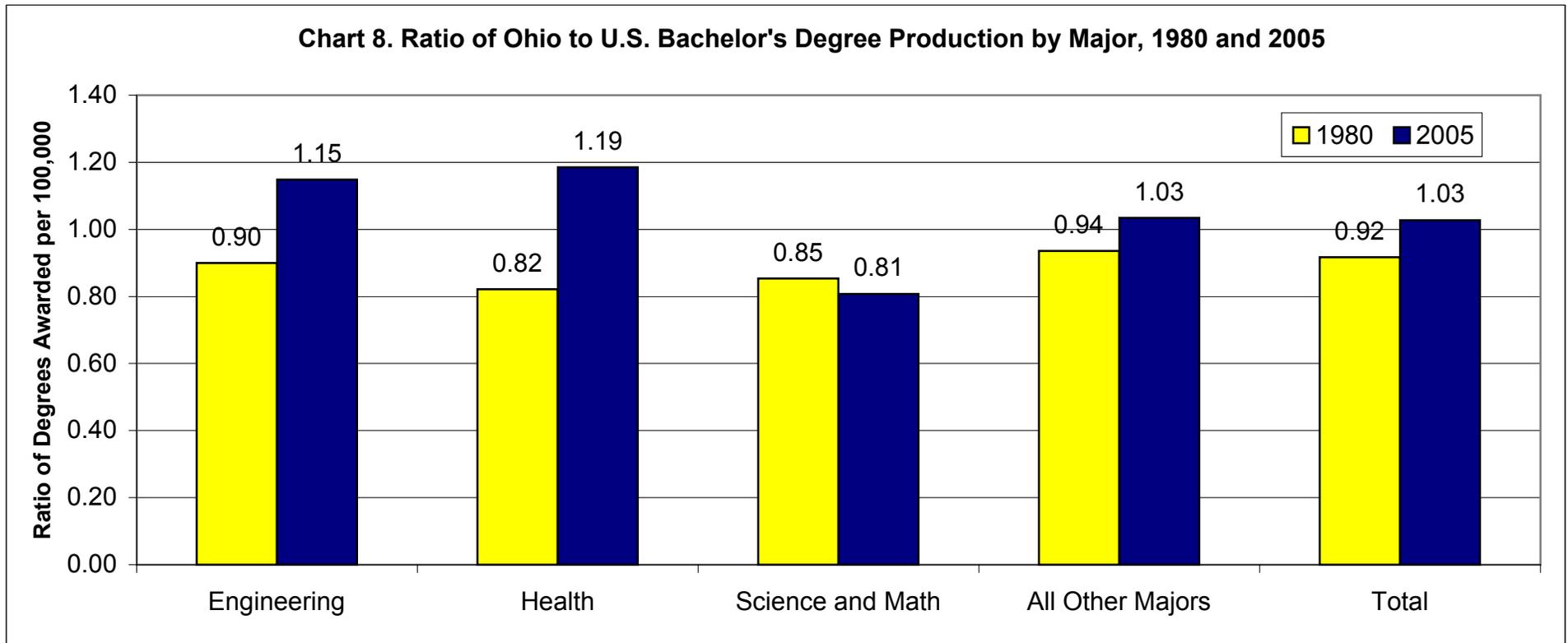
## Bachelor's Degree Production by Major

Table 2. Bachelor's Degrees per 100,000 Population, Ohio - All Institutions

Major	1980	1985	1990	1995	2000	2005	% Change
Engineering	27	45	35	32	28	31	15%
Health	23	26	25	32	29	32	39%
Science and Math	35	46	36	40	41	42	20%
<b>STEM<sup>2</sup> Subtotal</b>	<b>85</b>	<b>117</b>	<b>96</b>	<b>104</b>	<b>98</b>	<b>105</b>	<b>24%</b>
All Other Majors	291	285	324	340	341	392	35%
<b>Total</b>	<b>377</b>	<b>402</b>	<b>420</b>	<b>444</b>	<b>439</b>	<b>497</b>	<b>32%</b>

The largest increases since 1980 in bachelor's degree production in Ohio have come from the non-STEM<sup>2</sup> fields; however, the STEM<sup>2</sup> fields have shown a steady absolute increase. Ohio's degree production in engineering and healthcare went from being well below the national average to far exceeding it. Science and math is a weak area, with only a 20% increase in degree production per capita and a 2005 production level that is only 81% of the U.S. level.

Chart 8. Ratio of Ohio to U.S. Bachelor's Degree Production by Major, 1980 and 2005



## Graduate and Professional Degree Production by Major

**Table 3. Graduate and Professional Degrees per 100,000 Population, Ohio - All Institutions**

Major	1980	1985	1990	1995	2000	2005	% Change
Engineering	9	11	11	14	13	15	67%
Health	18	21	19	22	26	29	61%
Science and Math	10	12	12	13	11	14	40%
<b>STEM<sup>2</sup> Subtotal</b>	<b>37</b>	<b>44</b>	<b>42</b>	<b>49</b>	<b>50</b>	<b>58</b>	<b>57%</b>
All Other Majors	132	122	116	139	145	167	27%
<b>Total</b>	<b>170</b>	<b>165</b>	<b>159</b>	<b>188</b>	<b>196</b>	<b>226</b>	<b>33%</b>

Ohio's per capita production of graduate and professional degrees has increased by 33% from 1980 to 2005. However, national degree production has increased at an even faster rate, reducing the Ohio/U.S. ratio. In 2005, Ohio produced 7% more graduate engineering degrees per capita each year than the nation as a whole, but science and math production was only 82% of the U.S. level.

**Chart 9. Ratio of Ohio to U.S. Graduate and Professional Degree Production by Major, 1980 and 2005**

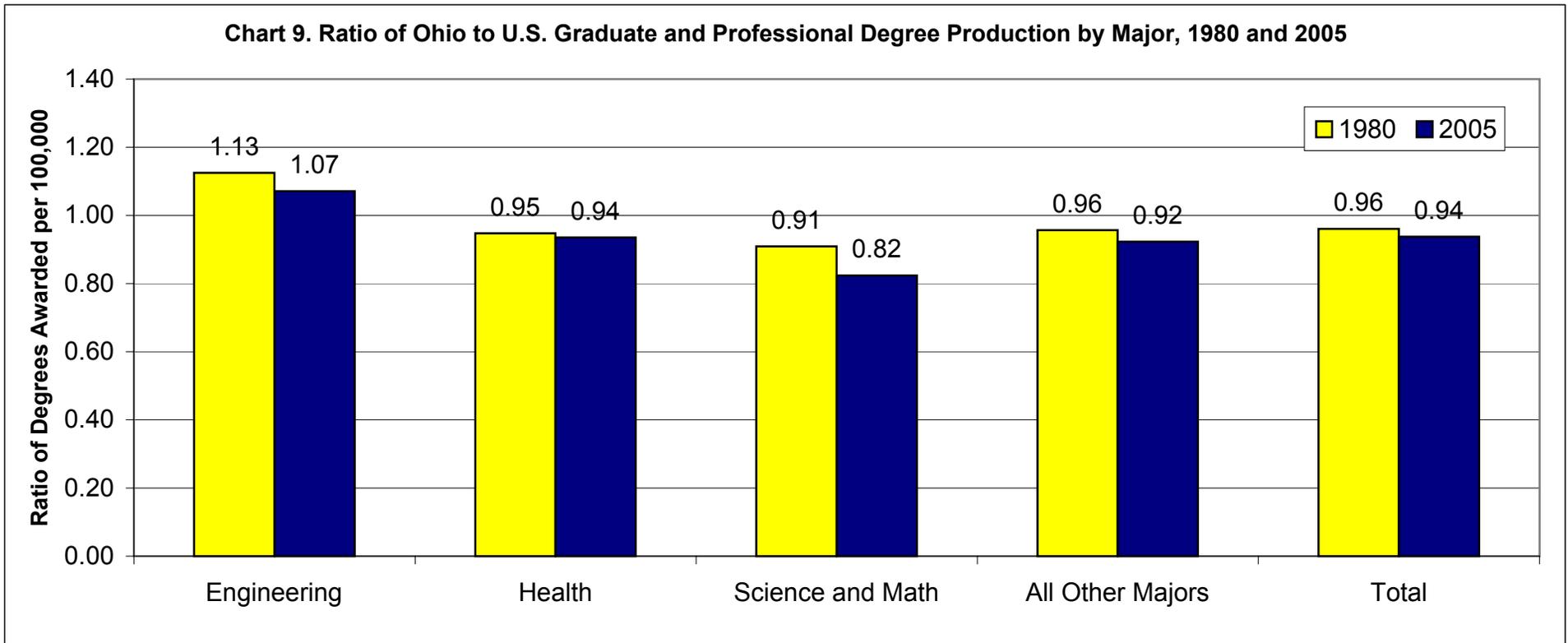
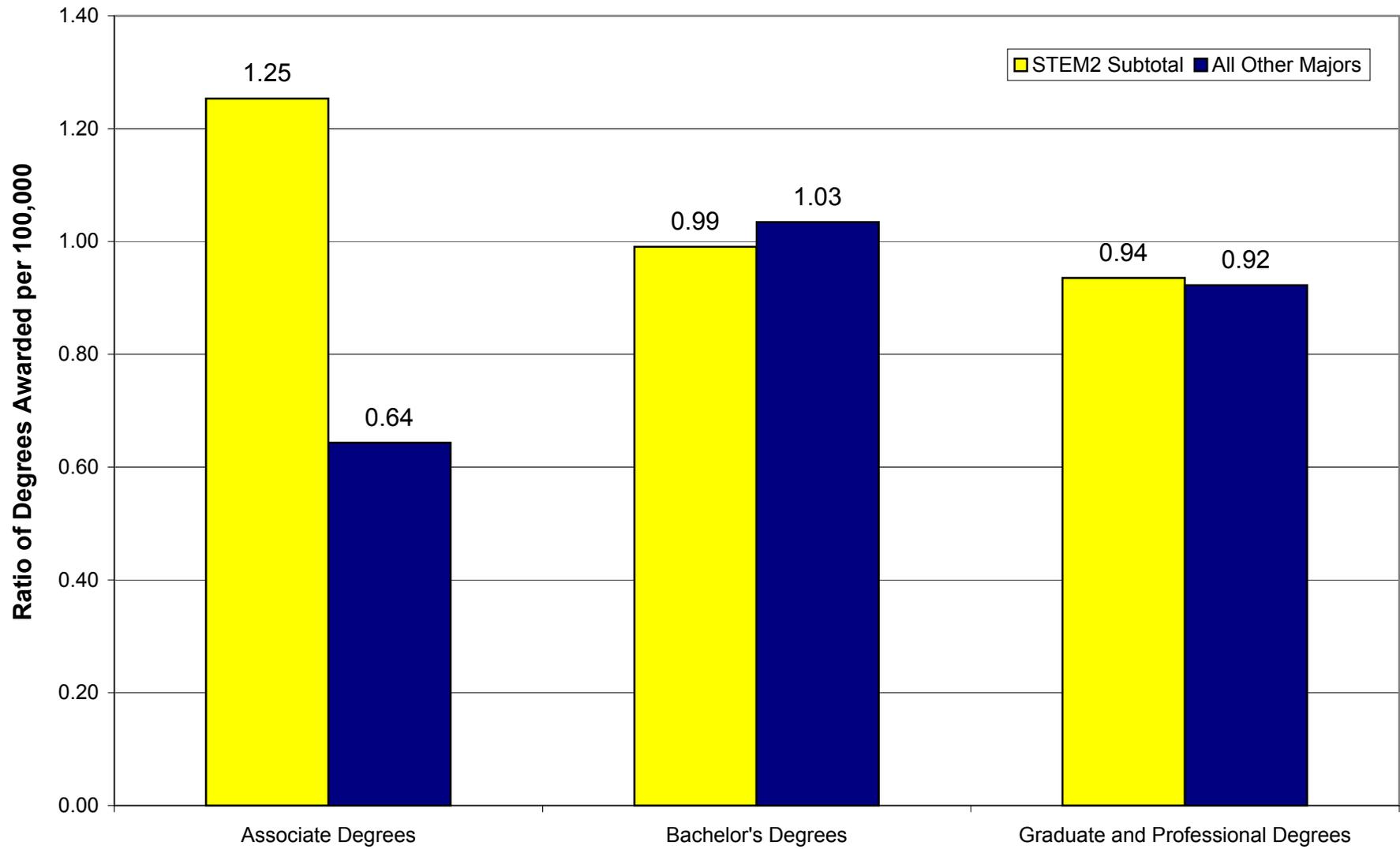


Chart 10. 2005 Ohio to U.S. Ratios, STEM<sup>2</sup> and All Other Majors



**Table 4. Degrees Awarded per 100,000 People, All Sectors**

		Ohio						US						% Change, 1980 to 2005	
Degree Awarded	Discipline Area	1980	1985	1990	1995	2000	2005	1980	1985	1990	1995	2000	2005	Ohio	US
Associate Degrees	Engineering	18	33	25	22	20	20	18	22	18	14	13	12	13%	-32%
	Health	28	35	35	51	37	53	26	28	25	38	30	42	88%	61%
	Science and Math	6	13	5	6	9	16	5	8	7	8	11	17	157%	252%
	Other	69	95	94	114	104	110	124	132	132	151	148	171	59%	37%
	All Fields	121	176	158	194	170	198	174	191	181	211	203	242	64%	39%
Bachelor's Degrees	Engineering	27	45	35	32	28	31	30	40	32	29	26	27	14%	-13%
	Health	23	26	25	32	29	32	28	27	22	30	28	27	36%	-5%
	Science and Math	35	46	36	40	41	42	41	50	38	44	47	52	19%	27%
	Other	291	285	324	340	341	392	311	295	320	336	338	379	35%	22%
	All Fields	377	402	420	444	439	497	411	412	412	439	439	484	32%	18%
Doctoral Degrees	Engineering	1	1	1	3	2	3	1	1	2	2	2	2	131%	99%
	Health	0	1	0	1	2	1	0	0	1	1	1	2	166%	481%
	Science and Math	2	3	3	4	3	4	3	3	4	4	4	4	52%	18%
	Other	10	9	9	12	12	10	10	9	9	10	9	10	3%	1%
	All Fields	14	13	14	20	19	18	14	14	15	17	16	18	27%	24%
First-Professional Degrees	Health	12	14	12	11	13	14	12	13	11	11	13	13	14%	6%
	Other	20	20	16	16	15	15	19	19	17	18	15	17	-23%	-11%
	All Fields	33	34	28	27	28	30	31	31	29	29	28	29	-9%	-4%
Master's Degrees	Engineering	8	10	10	11	11	12	7	9	10	11	9	12	57%	67%
	Health	6	6	7	10	11	14	7	7	8	12	15	16	127%	126%
	Science and Math	8	9	9	9	8	10	8	9	9	10	10	13	26%	57%
	Other	102	93	91	111	118	142	109	95	102	118	127	154	40%	41%
	All Fields	123	118	117	141	149	178	132	120	128	151	162	194	44%	48%
All Degree Levels		667	743	737	826	804	920	761	769	765	846	847	968	38%	27%

**Table 5. Degrees Awarded per 100,000 People, Public Institutions**

		Ohio						US						% Change, 1980 to 2005	
Degree Awarded	Discipline Area	1980	1985	1990	1995	2000	2005	1980	1985	1990	1995	2000	2005	Ohio	US
Associate Degrees	Engineering	13	24	16	16	14	15	17	16	11	9	7	8	12%	-52%
	Health	25	31	31	44	32	41	23	25	22	31	24	31	66%	37%
	Science and Math	5	7	3	4	6	8	5	6	6	7	8	11	65%	164%
	Other	56	81	74	89	83	88	105	111	107	124	122	141	56%	33%
	All Fields	99	144	124	153	136	152	149	158	146	171	162	191	53%	28%
Bachelor's Degrees	Engineering	21	33	26	24	21	24	22	30	23	22	19	20	15%	-10%
	Health	18	20	19	22	20	22	18	17	15	20	18	17	21%	-3%
	Science and Math	23	28	23	24	23	23	26	32	25	28	30	32	2%	24%
	Other	195	190	220	225	218	252	209	196	214	222	220	243	29%	16%
	All Fields	257	271	288	294	282	321	276	274	276	292	287	312	25%	13%
Doctoral Degrees	Engineering	1	1	1	2	2	2	1	1	1	2	1	2	160%	125%
	Health	0	0	0	1	1	1	0	0	0	1	1	1	216%	344%
	Science and Math	2	2	3	3	3	3	2	2	3	3	3	3	56%	17%
	Other	7	7	7	9	8	7	6	5	5	6	5	5	-1%	-9%
	All Fields	11	11	11	15	14	13	9	9	9	11	10	10	28%	16%
First-Professional Degrees	Health	9	11	9	9	9	11	6	7	6	6	7	7	24%	5%
	Other	9	9	8	8	7	8	6	6	5	5	5	5	-16%	-13%
	All Fields	18	19	18	17	17	19	12	12	11	11	11	12	4%	-3%
Master's Degrees	Engineering	6	8	8	8	9	10	4	6	6	8	6	8	58%	95%
	Health	5	5	5	7	8	10	4	4	5	7	8	8	94%	90%
	Science and Math	7	7	8	8	8	8	6	6	6	6	6	7	18%	33%
	Other	67	59	61	73	70	82	68	55	55	63	64	73	22%	8%
	All Fields	86	79	82	96	94	110	82	71	72	84	86	97	29%	18%
All Degree Levels		470	524	522	576	543	615	528	525	515	568	556	623	31%	18%

**Table 6. Degrees Awarded per 100,000 People, Private Institutions**

		Ohio						US						% Change, 1980 to 2005	
Degree Awarded	Discipline Area	1980	1985	1990	1995	2000	2005	1980	1985	1990	1995	2000	2005	Ohio	US
Associate Degrees	Engineering	4	9	8	6	5	5	2	6	7	5	6	4	14%	176%
	Health	3	4	4	8	4	12	3	3	2	6	6	11	250%	236%
	Science and Math	1	5	1	2	3	7	1	2	1	1	3	6	596%	830%
	Other	13	14	20	25	21	22	19	21	24	27	26	30	73%	59%
	All Fields	21	32	34	40	34	46	24	32	35	40	41	51	115%	109%
Bachelor's Degrees	Engineering	6	12	10	8	7	7	8	11	9	7	6	6	11%	-21%
	Health	6	6	6	10	9	10	10	10	8	10	10	10	84%	-9%
	Science and Math	12	18	13	16	19	19	15	18	13	16	17	20	51%	33%
	Other	96	95	103	115	122	140	102	99	106	114	118	136	46%	34%
	All Fields	120	131	132	150	157	176	135	138	136	147	152	172	47%	27%
Doctoral Degrees	Engineering	0	0	0	1	1	1	0	1	1	1	1	1	73%	56%
	Health	0	1		0	0	0	0	0	0	0	0	1	11%	701%
	Science and Math	0	0	0	0	0	1	1	1	1	1	1	1	35%	20%
	Other	2	1	2	3	4	3	4	3	4	4	4	4	18%	16%
	All Fields	3	3	3	5	5	4	5	5	6	6	6	7	27%	36%
First-Professional Degrees	Health	3	4	3	2	4	3	6	6	5	6	6	6	-11%	8%
	Other	11	11	7	8	7	8	13	13	12	13	11	12	-30%	-10%
	All Fields	15	14	11	10	11	11	19	19	17	18	17	18	-25%	-5%
Master's Degrees	Engineering	1	2	3	3	3	2	3	3	3	4	3	3	54%	24%
	Health	1	1	2	2	3	4	3	3	3	5	7	8	279%	186%
	Science and Math	1	1	1	1	1	2	2	3	3	3	4	5	95%	113%
	Other	35	35	30	38	48	60	41	40	46	55	62	81	73%	96%
	All Fields	38	39	36	44	54	68	49	49	57	67	76	97	79%	97%
All Degree Levels		197	219	215	250	261	305	233	244	250	278	291	345	54%	48%