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A Legislative Briefing



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DEGREE COMPLETIONS AT STATE UNIVERSITIES

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In fiscal year (FY) 2004-05, students earned a total of 59,919 degrees at Michigan's 15 state universities. Of that total, 38,901 (64.9 percent) were bachelor's degrees.

The percentage of degrees granted in the combined categories of Agriculture/Natural Resources, Natural Science, Engineering/Technology, and Health varied substantially across the state universities—from a low of 17.1 percent to a high of 83.4 percent.

From FY 1992-93 to FY 1998-99, bachelor's degree completions at state universities declined by 8.7 percent. From FY 1998-99 to FY 2004-05, this figure grew by 18.0 percent.

The topic of postsecondary degrees has been discussed in two major forums in Michigan over the last two years:

- The Lieutenant Governor's Commission on Higher Education, which convened in the fall of 2004, was charged with identifying strategies to double the number of Michigan residents with postsecondary degrees or credentials within ten years.
- During the FY 2005-06 budget process, House, Senate, and enacted versions of the Higher Education budget all—to a varying extent—used degree completion data to allocate state funds to state universities. The FY 2006-07 Executive Budget also utilizes degree data to allocate a portion of state university funding.

This report provides an overview of the number and types of degree completions at Michigan's state universities in FY 2004-05 and analyzes changes in the number of degree completions

since FY 1992-93.¹ Degree completions at five levels are considered: Associate's, Bachelor's, Master's, Doctoral, and Professional.

Data Sources and Notes

Data used in this report are submitted annually to the federal Integrated Postsecondary Education System (IPEDS) and subsequently included in the Higher Education Institutional Data Inventory (HEIDI), a state database to which Michigan's 15 state universities annually submit enrollment and financial data.

Degree completion data are classified by degree level and by program area, and reported based on Classification of Instructional Programs (CIP) codes published by the U.S. Department of Education. The highest level of classification

¹ This report uses data on the absolute number of degree completions at state universities. For more information on graduation rates, a frequently-cited degree completion measure, please see <http://www.house.mi.gov/hfa/PDFs/grad%20rate%20sub%20memo.pdf>.

(two-digit codes) includes about 35 program areas which, for ease of analysis, have been divided into five broad program categories: General, Agriculture/Natural Resources, Natural Science, Engineering/Technology, and Health.

Program areas in the Agriculture/Natural Resources, Natural Science, Engineering/Technology, and Health categories generally have higher costs of instruction (expenditures per credit hour) than program areas included in the General category.²

Degree completions at community colleges and independent colleges and universities in the state are not covered in this report. Although data are collected on award completions for programs requiring less than two years of study and certificate completions, those award levels are not covered in this report.

Total Degree Completions in FY 2004-05

In FY 2004-05, a total of 59,919 degrees were earned by students enrolled at state universities in Michigan. **Table 1** (see last page of report) provides a breakdown of that total, classified by both degree level and program area with degrees subtotaled by the five broader program categories noted above.

Figure 1 shows the total number of degree completions, by level, at the state universities. Bachelor's degrees accounted for nearly two-thirds of the completions, and master's degrees made up the vast majority (27.8 percent of the total) of the remainder. Associate's, doctoral, and professional degrees each accounted for 3 percent or less of total degree completions.

Figure 2 shows the total number of degree completions by program category. Almost thirty percent of the total degree completions fell into the four higher-cost program categories:

² In general, the five program categories listed correspond with those utilized in the enacted version of the FY 2005-06 state university funding model used to determine university funding amounts for July and August 2006. Degrees classified in the Agriculture/Natural Resources category in this report are split between the General category and the Natural Science category under the funding model. Areas receiving a higher weight in the FY 2006-07 Executive Budget correspond to the higher-weighted categories under the FY 2005-06 funding model, but with degrees in mathematics and statistics also weighted at a higher level.

Engineering/Technology had 14.3 percent, Health had 8.6 percent, Natural Science had 5.2 percent, and Agriculture/Natural Resources had 1.6 percent.

The largest program areas in the General category (the remaining 70.3 percent of total degrees) were business and education, which accounted for nearly half (48.2 percent) of the 42,151 degrees in that category.

Degree Completions in FY 2004-05 by University

Examination of the number and types of degree completions at individual state universities reveals considerable variation among the universities. **Table 2** shows the 59,919 degree completions in FY 2004-05 by state university and academic level:

- Associate's degrees were granted at four universities (Ferris State, Lake Superior State, Michigan Tech, and Northern Michigan).
- Bachelor's degrees were granted at all 15 state universities.
- Master's degrees were granted at 14 of the 15 universities (Lake Superior State was the exception).
- Doctoral degrees were granted at eight universities.
- Professional degrees were granted at four universities (Ferris State, Michigan State, UM-Ann Arbor, and Wayne State granted professional degrees in health-related areas; UM-Ann Arbor and Wayne State granted legal degrees).³

Figure 3 shows degree completions by university in FY 2004-05. The largest number of total degrees—over 10,000 each—were granted by UM-Ann Arbor and Michigan State; together, those universities accounted for 35.6 percent of total degree completions at state universities. Bachelor's degree data show Michigan State (7,733) and UM-Ann Arbor (5,880) with the highest totals of bachelor's degrees granted in the state.

³ Professional degrees in health-related areas include degrees in medicine, osteopathic medicine, pharmacy, dentistry, veterinary medicine, and optometry.

Figure 1
FY 2004-05 Total Degree Completions: Level

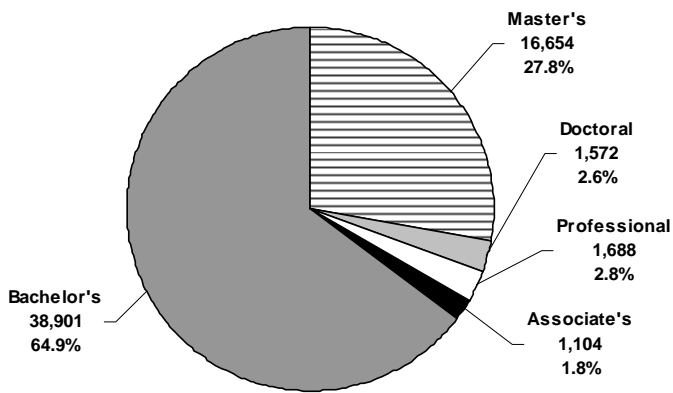


Figure 2
FY 2004-05 Total Degree Completions: Program Category

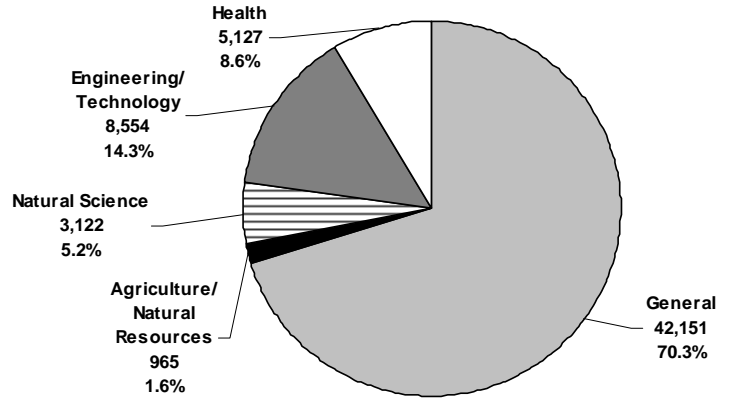


Table 2
Fiscal Year 2004-05 Degree Completions by University and Level

University	Associate's	Bachelor's	Master's	Doctoral	Professional	Total
Central	0	3,549	2,548	78	0	6,175
Eastern	0	2,923	1,135	12	0	4,070
Ferris	844	1,412	158	0	149	2,563
Grand Valley	0	2,938	920	0	0	3,858
Lake Superior	95	478	0	0	0	573
Michigan State	0	7,733	2,004	425	349	10,511
Michigan Tech	28	1,048	185	44	0	1,305
Northern	137	1,198	156	0	0	1,491
Oakland	0	2,012	886	20	0	2,918
Saginaw Valley	0	1,084	503	0	0	1,587
UM-Ann Arbor	0	5,880	3,563	725	681	10,849
UM-Dearborn	0	1,155	619	0	0	1,774
UM-Flint	0	907	206	0	0	1,113
Wayne State	0	2,293	2,347	173	509	5,322
Western	0	4,291	1,424	95	0	5,810
TOTAL	1,104	38,901	16,654	1,572	1,688	59,919

Figure 3
FY 2004-05 Degree Completions: University

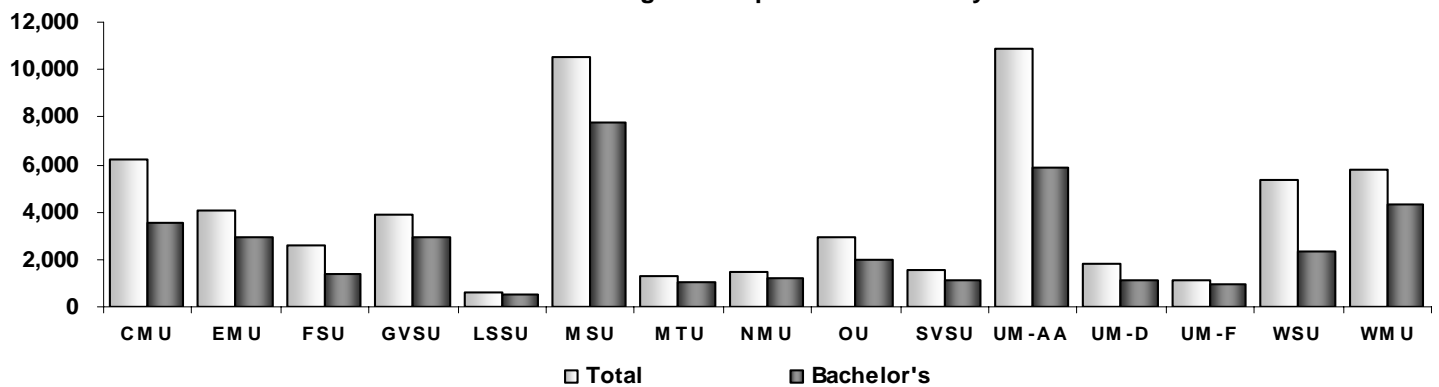


Figure 4
FY 2004-05 Degree Completions (Level) as % of Total Completions at University

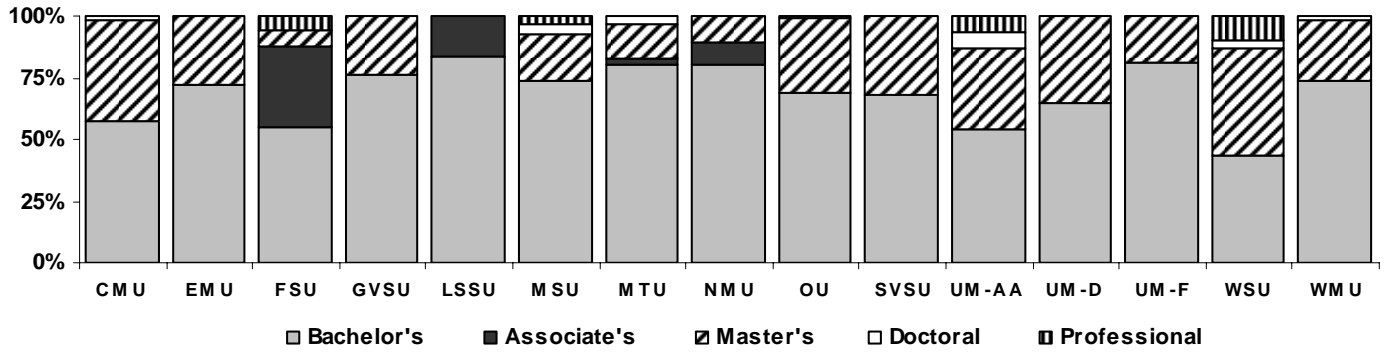


Figure 5
FY 2004-05 Degree Completions (Program Category) as % of Total Completions at University

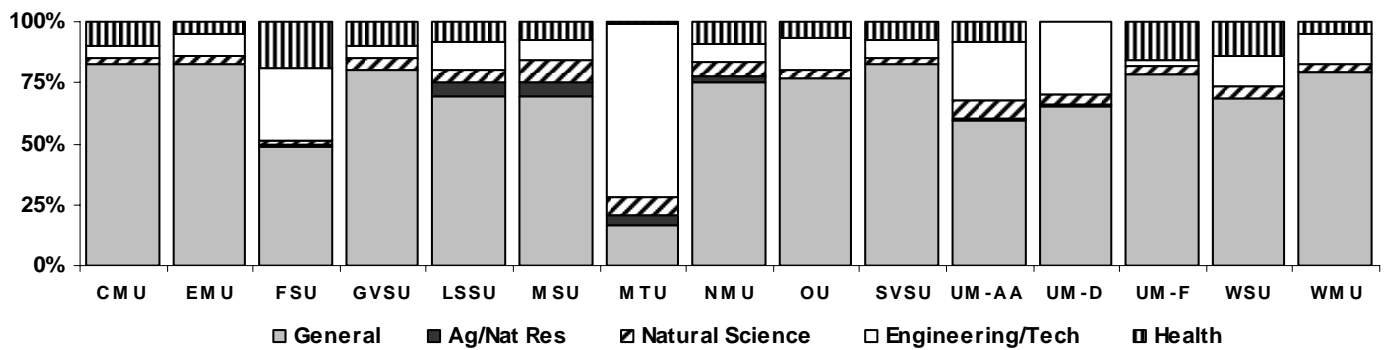


Figure 6
% Change From Prior Year in Degree Completions at State Universities

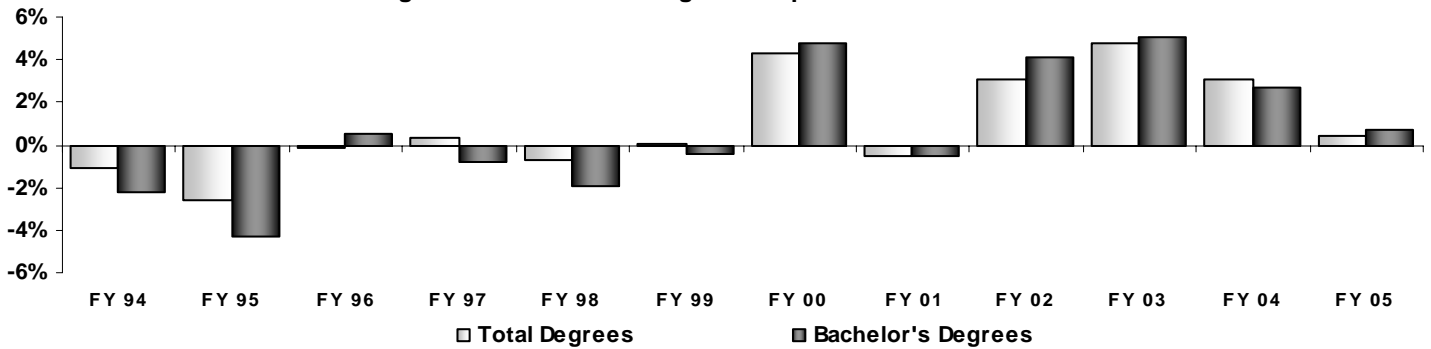
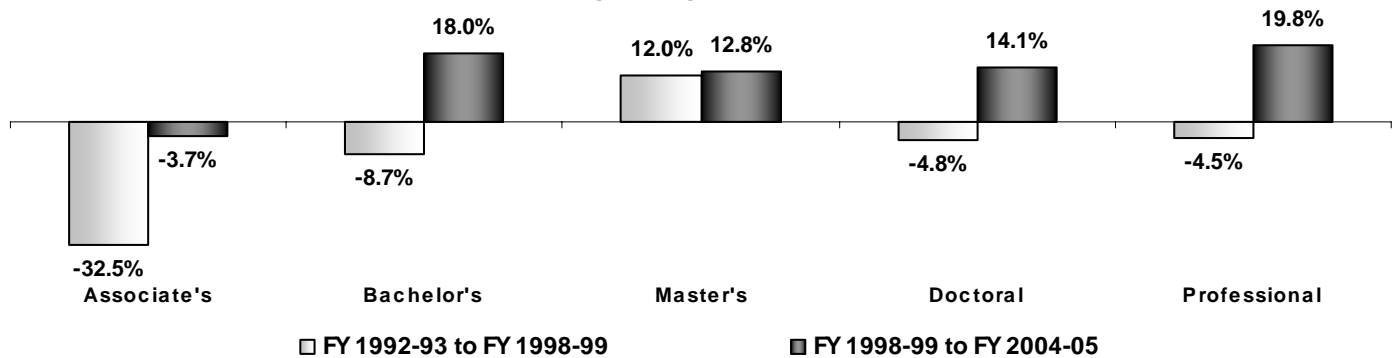


Figure 7
Percent Change in Degree Completions: Level



Comparing the total number of degrees granted, the gap between the second highest (Michigan State) and the third highest (Central Michigan) was sizable—about 4,300.⁴ Comparing only bachelor's degrees granted, the gap between the second highest (UM-Ann Arbor) and third highest (Western Michigan) number of degrees shrinks to about 1,600 due to the relatively high proportion of graduate instruction at UM-Ann Arbor.

Figure 4 illustrates the percentage of degree completions at each university by academic level in FY 2004-05. Four universities granted more than 80 percent of their degrees at the bachelor's level: Lake Superior State, Michigan Tech, Northern Michigan, and UM-Flint. Nearly one-third of degree completions at Ferris State were at the associate's level; Lake Superior State and Northern Michigan also granted a significant percentage of their degrees at the associate's level.

UM-Ann Arbor and Wayne State exhibit the highest percentages of degree completions at the graduate level (master's, doctoral, and professional). Wayne State granted over half (56.9 percent) of its degrees at the graduate level.

Figure 5 classifies the percentage of degree completions by program category. Lake Superior State and Michigan State granted the highest percentages (5.9 percent) of their degrees in the Agriculture/Natural Resources category.

For degrees granted in the Natural Science category, Michigan State had the highest percentage (8.8 percent), and Michigan Tech and UM-Ann Arbor both exceeded 7 percent.

Engineering/Technology shows a large range in the percentage of degree completions. Michigan

Tech granted nearly three-fourths (71.3 percent) of its degrees in this category—considerably more than UM-Dearborn (in second place at 29.9 percent). Ferris State and UM-Ann Arbor also granted more than 20 percent of their degrees in Engineering/Technology. At the low end of the range, UM-Flint granted 2.4 percent of its degrees in this category.

Four universities granted more than 10 percent of their total degree completions in the Health category (Ferris State, Grand Valley, UM-Flint, and Wayne State); two universities (Michigan Tech and UM-Dearborn) granted less than one percent of their degrees in this category.

The three universities that granted the highest percentages of their degrees in the combined categories of Agriculture/Natural Resources, Natural Science, Engineering/Technology, and Health are Michigan Tech (83.4 percent), Ferris State (50.9 percent), and UM-Ann Arbor (40.7 percent).

The three universities that granted the lowest percentage of their degrees in those combined categories are Saginaw Valley (17.1 percent), Eastern Michigan (17.1 percent), and Central Michigan (17.7 percent).

In sum, there is a great deal of variety in the types of degree completions occurring at the 15 universities. The most extreme example of a university specializing in a particular niche is Michigan Tech, where over half (58.8 percent) of total degree completions in FY 2004-05 were bachelor's degrees in Engineering/Technology.

A less extreme example of a niche is the number of graduate degree completions at UM-Ann Arbor in Engineering/Technology—44.8 percent of the total graduate degree completions at state universities in that category.

⁴ A significant number of Central Michigan's degree completions result from instruction conducted outside of the state. Pursuant to annual budget bill boilerplate, this instruction is not included in enrollment data reported to HEIDI each year. The HEIDI Advisory Committee recently adopted a requirement that degree completions resulting from such instruction be excluded from data reported to HEIDI. Central Michigan reports that 1,281 master's degree completions in FY 2004-05 (50.3 percent of its total master's degrees and 20.7 percent of its total degree completions at all levels) would be excluded under this reporting change. That adjustment has not been made to the data used in this report to maintain consistency with historical data.

Changes in Total Degree Completions

The remainder of this report analyzes changes in the number of degree completions by state universities over time.

Figure 6 shows the annual percentage changes in degree completions (both total and bachelor's)

at state universities from FY 1992-93 to FY 2004-05. Two distinct periods emerge:

FY 1992-93 to FY 1998-99

- The number of degrees earned at state universities generally declined.
- Neither bachelor's degree completions nor total degree completions increased by more than 0.5 percent in any year.
- Bachelor's degree completions declined by 8.7 percent over the six years; total degree completions declined by 4.2 percent.
- In absolute terms, total degree completions declined from 53,927 to 51,667—a decrease of 2,260 degrees.

FY 1998-99 to FY 2004-05

- There was growth in the number of degrees earned in five out of six years.
- Bachelor's degree completions increased by 18.0 percent; total degree completions increased by 16.0 percent over this period.
- In absolute terms, total degree completions grew from 51,667 to 59,919—an increase of 8,252.

Growth in degree completions from FY 1998-99 to FY 2004-05 mirrors growth in enrollment at the state universities. From FY 1995-96 to FY 2001-02 (using this time period reflects the lag between new student enrollment and the time when those students are eligible to earn a degree), total fiscal year equated students (FYES) grew by 13.2 percent.

Figure 7 shows the percentage growth in the number of degrees granted at each academic level during the time periods identified above.

In the period of FY 1992-93 to FY 1998-99, degree completions declined at four of the five degree levels: associate's degree completions fell by nearly one-third, bachelor's degree completions fell by 8.7 percent (only Grand Valley, Lake Superior State, and Saginaw Valley had growth in that category), and both doctoral and professional degree completions declined at moderate rates.

The exception to the overall decline in degree completions was at the master's degree level, where completions grew by 12.0 percent.

Twelve of the 15 universities experienced increases in master's degree completions from FY 1992-93 to FY 1998-99.

From FY 1998-99 to FY 2004-05, degree completions increased at four of the five degree levels: bachelor's degree completions grew at a rate of 18.0 percent, and master's degree and doctoral degree completions grew at somewhat lower rates of 12.8 percent and 14.1 percent, respectively.

Professional degree completions grew at the highest rate—19.8 percent. This growth was driven largely by growth at Ferris State, which experienced an increase of 263.4 percent in this category (from 41 in FY 1998-99 to 149 in FY 2004-05).

The associate's degree level was the only level to experience a reduction in degree completions from FY 1998-99 to FY 2004-05, although the decline was more moderate than in the previous six-year period. Ferris State, which granted well over half of the associate's degree completions by state universities in both years, had moderate growth of 4.8 percent; the other three associate degree-granting universities had declines in the number of degree completions at that level.

Changes in Degree Completions by University

This section of the report provides a more detailed analysis of changes in the number of degree completions by university during the six-year period of growth beginning after FY 1998-99.

Table 3 compares degree completions (total and bachelor's) at each state university in FY 1998-99 and FY 2004-05, and shows that growth across the state universities varied considerably over the six-year period.

Lake Superior State was the only university to experience a reduction in both total degree completions and bachelor's degree completions; UM-Flint saw a small reduction in the number of bachelor's degree completions.

Table 3
Fiscal Year 2004-05 vs. 1998-99: Total Degree Completions and Bachelor's Degrees Completions

University	FY 1998-99		FY 2004-05		#Change		%Change	
	Bachelor's Degrees	Total Degrees	Bachelor's Degrees	Total Degrees	Bachelor's Degrees	Total Degrees	Bachelor's Degrees	Total Degrees
Central	2,855	5,230	3,549	6,175	694	945	24.3	18.1
Eastern	2,738	3,854	2,923	4,070	185	216	6.8	5.6
Ferris	1,146	2,075	1,412	2,563	266	488	23.2	23.5
Grand Valley	1,822	2,479	2,938	3,858	1,116	1,379	61.3	55.6
Lake Superior	557	700	478	573	(79)	(127)	(14.2)	(18.1)
Michigan State	6,687	9,255	7,733	10,511	1,046	1,256	15.6	13.6
Michigan Tech	986	1,211	1,048	1,305	62	94	6.3	7.8
Northern	906	1,204	1,198	1,491	292	287	32.2	23.8
Oakland	1,662	2,502	2,012	2,918	350	416	21.1	16.6
Saginaw Valley	809	1,133	1,084	1,587	275	454	34.0	40.1
UM-Ann Arbor	5,294	9,575	5,880	10,849	586	1,274	11.1	13.3
UM-Dearborn	944	1,365	1,155	1,774	211	409	22.4	30.0
UM-Flint	923	1,058	907	1,113	(16)	55	(1.7)	5.2
Wayne State	2,151	5,166	2,293	5,322	142	156	6.6	3.0
Western	<u>3,495</u>	<u>4,860</u>	<u>4,291</u>	<u>5,810</u>	<u>796</u>	<u>950</u>	<u>22.8</u>	<u>19.5</u>
TOTAL	32,975	51,667	38,901	59,919	5,926	8,252	18.0	16.0

Over the six-year period, Grand Valley had the highest percentage growth in both total (55.6 percent) and bachelor's (61.3 percent) degree completions. Saginaw Valley and UM-Dearborn saw 30 percent or higher growth in total degrees earned; Northern Michigan and Saginaw Valley saw more than 30 percent growth in bachelor's degrees earned.

The universities with higher growth in degree completions tended to be the universities with substantial enrollment growth over the last ten years. Michigan State and UM-Ann Arbor, although their percentage increases were lower than percentage increases in the 15-university totals, contributed to overall degree growth in absolute terms. Both universities experienced increases of over 1,000 degree completions from FY 1998-99 to FY 2004-05, ranking second (UM-Ann Arbor) and third (Michigan State) among the 15 universities in absolute degree completion growth over that time

compared. Because data could be substantially misleading in a number of areas, this report does not provide data on degree completion changes by program category.⁵

Conclusion

Considerable variation—in both academic levels and program categories—in the types of degrees earned by students across Michigan's 15 state universities is revealed in this report. Historical data on degree completions show that a downward trend in total degree completions during the six-year period ending in FY 1998-99 was followed by steady growth in the number of completions over the subsequent six-year period.

These variations and trends will take on greater importance if degree completion data continue to be utilized to allocate funds to Michigan's state universities.

Note on Degree Completions Changes

Preparation of this report included examination of changes in degree completions by program category over time. Due to a change in the CIP codes used to report degree completions, however, these changes cannot be accurately

⁵ The CIP codes are generally revised every ten years; most state universities switched from 1990 codes to 2000 codes in reporting either FY 2002-03 or FY 2003-04 degree completion data. As an example, some degrees classified as health-related under the 1990 codes are now classified as related to biological science under the 2000 codes. Some universities, therefore, show declines in health-related degree completions over the last several years that do not reflect a true decline in degree completions in specific programs.

Table 1
Fiscal Year 2004-05 Total Degree Completions by Program Area/Category and Level

<u>Program Area/Category</u>	<u>Associate's</u>	<u>Bachelor's</u>	<u>Master's</u>	<u>Doctoral</u>	<u>Professional</u>	<u>Total</u>
<u>GENERAL</u>						
Area, Ethnic, Cultural, and Gender Studies	0	149	24	11	0	184
Business, Management, Marketing, and Support Service	61	7,079	3,941	28	0	11,109
Communication, Journalism, and Related Programs	0	2,643	250	22	0	2,915
Education	12	4,556	4,494	155	0	9,217
English Language and Literature/Letters	2	1,536	165	29	0	1,732
Family and Consumer Sciences/Human Sciences	19	415	54	20	0	508
Foreign Languages, Literatures, and Linguistics	0	483	105	41	0	629
History	0	711	55	33	0	799
Legal Professions and Studies	26	149	53	4	578	810
Liberal Arts/Sciences, General Studies, and Humanities	39	554	52	0	0	645
Library Science	0	0	257	0	0	257
Mathematics and Statistics	0	359	170	34	0	563
Multi/Interdisciplinary Studies	18	555	134	29	0	736
Parks, Recreation, Leisure and Fitness Studies	1	559	133	12	0	705
Personal and Culinary Services	0	29	0	0	0	29
Philosophy and Religious Studies	0	143	23	6	0	172
Psychology	0	2,154	202	107	0	2,463
Public Administration and Social Service Professions	0	702	1,332	23	0	2,057
Security and Protective Services	141	934	80	8	0	1,163
Social Sciences	0	3,010	275	112	0	3,397
Visual and Performing Arts	<u>30</u>	<u>1,710</u>	<u>273</u>	<u>48</u>	<u>0</u>	<u>2,061</u>
Subtotal: General	349	28,430	12,072	722	578	42,151
<u>AGRICULTURE/NATURAL RESOURCES</u>						
Agriculture, Agriculture Operations, and Related Sciences	10	415	65	29	0	519
Natural Resources and Conservation	<u>15</u>	<u>283</u>	<u>119</u>	<u>29</u>	<u>0</u>	<u>446</u>
Subtotal: Agriculture/Natural Resources	25	698	184	58	0	965
<u>NATURAL SCIENCE</u>						
Biological and Biomedical Sciences	0	1,847	314	178	0	2,339
Physical Sciences	<u>2</u>	<u>443</u>	<u>196</u>	<u>142</u>	<u>0</u>	<u>783</u>
Subtotal: Natural Science	2	2,290	510	320	0	3,122
<u>ENGINEERING/TECHNOLOGY</u>						
Architecture and Related Services	0	160	168	8	0	336
Communication Technology/Technicians, Support Service	17	111	0	0	0	128
Computer/Information Sciences and Support Service	2	989	442	23	0	1,456
Construction Trades	7	0	0	0	0	7
Engineering	5	2,993	1,767	323	0	5,088
Engineering Technologies/Technicians	238	708	256	0	0	1,202
Mechanic and Repair Technologies/Technicians	114	21	0	0	0	135
Precision Production	50	6	0	0	0	56
Science Technologies/Technicians	6	0	0	0	0	6
Transportation and Materials Moving	<u>0</u>	<u>140</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>140</u>
Subtotal: Engineering/Technology	439	5,128	2,633	354	0	8,554
<u>HEALTH</u>						
Health Professions and Related Clinical Sciences	<u>289</u>	<u>2,355</u>	<u>1,255</u>	<u>118</u>	<u>1,110</u>	<u>5,127</u>
Subtotal: Health	289	2,355	1,255	118	1,110	5,127
GRAND TOTAL	1,104	38,901	16,654	1,572	1,688	59,919