



Graduate Student Success Indicators at UMass Boston, Fall 2016

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The purpose of this report is to present key metrics to be used for assessment of graduate student programs at UMass Boston. In presenting the enclosing metrics, this report includes a rationale on the selection and development of the key metrics.

Background

Few studies have focused on graduate student success, resulting in a lack of common success metrics to evaluate graduate student programs. To develop good indicators for graduate success, one must define what success means for graduate students. Many studies focus on retention rather than degree completion and use continued enrollment as a key measure. The concept of degree progress replaces the idea of retention and better represents success (Girves & Wemmerus, 1988). Degree progress as a measure tracks the courses taken and degree earned.

Factors influencing degree progress may include graduate degree policies and requirements unique to each institution and degree program. For example, each program has different credits taken per semester and various program lengths to complete degree requirements. Credit load or credit hours taken per semester by graduate students serves as a good indicator of student involvement, where full time students will be more likely to have success toward degree completion with a lack of external distraction. Grades also serve as a major factor for degree progress in master's programs, where higher grades are correlated with higher retention. Grades are less of a predictor for doctoral progress.

Target Measures for Graduate Student Success

Table 1 depicts the target metrics for degree requirements across all graduate programs. According to the UMass Boston website, the measures for credit hours taken per semester and time to degree are projections for standard program completion. Variables are explained as follows:

Degree Requirements (DR) – the number of credit hours required to earn degree in program.

Target enrollment (TENR) – this measure of students enrolled per semester is notional, whereby department chairs and program directors would have better visibility on the actual enrollment targets.

Target credit hour load (TCH) – this measure represents the approximate number of credit hours a student would take per semester based on program design. Some programs merely state that normal degree completion might occur within a certain time frame (years or semesters). For these programs, the target credit hour load per semester can be calculated. Also, some programs may utilize summer semesters to augment the total credit hours taken per year in order to attain targeted time to degree measures.

Target time to degree (TTTD) – years it should take to complete the program. This measure is based on the UMass Boston website, when listed, or estimated by dividing the degree requirements by the target credit hour load doubled.

Target degrees awarded (TDEG) – the annual number of degrees awarded in each program is calculated by dividing the target enrollment by the target time to degree. The number of degrees awarded annually by program is function of enrollment and time to degree.

The relationships among key variables are depicted in Figure 1.

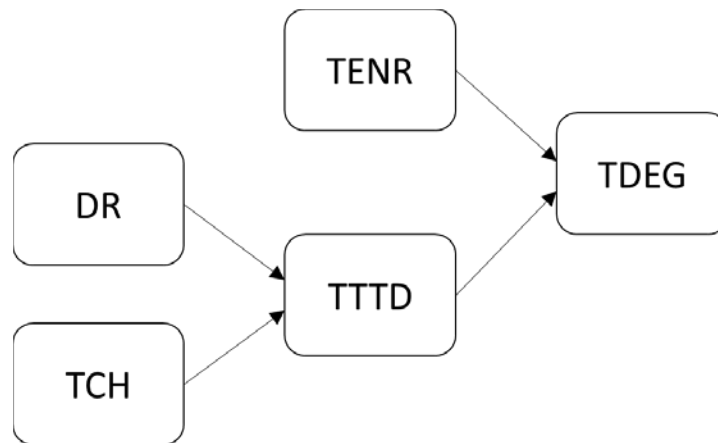


Figure 1. Conceptual model of key graduate program success indicators

Table 1: Target metrics based on graduate program degree requirements

			DEG REQ DR ⁽¹⁾	ENR TGT TENR ⁽²⁾	TGT CH LOAD TCH ⁽³⁾	TGT TTD TTTD ⁽⁴⁾	TGT DEG/YR TDEG ⁽⁵⁾
College of Liberal Arts							
CLA	American Studies	MA	30	20	7.5	2.0	10
CLA	Applied Economics	MA	32	20	7.5	2.1	9
CLA	Applied Linguistics	MA	30	160	7.5	2.0	80
CLA	Applied Sociology	MA	36	15	9	2.0	8
CLA	Clinical Psychology	MA	48	24	12	2.0	12
CLA	Clinical Psychology	PhD	120	60	12	5.0	12
CLA	Creative Writing	MFA	48	30	9	2.7	11
CLA	English	MA	30	65	7.5	2.0	33
CLA	Historical Archaeology	MA	36	50	6	3.0	17
CLA	History	MA	33	80	7.5	2.2	36
CLA	Human Services	MS	39	35	7.5	2.6	13
CLA	Latin & Classical Human	MA	36	20	9	2	10
College of Science and Mathematics							
CSM	Applied Physics	MS	34	30	9	1.9	16
CSM	Applied Physics	PhD	48	5	9	2.7	2
CSM	Biology	MS	30	15	7.5	2.0	8
CSM	Biology	PhD	60	60	9	3.3	18
CSM	BioMed Eng & Biotch	PhD	49	10	6	4.1	2
CSM	Biotec & Biomed Sci	MS	30	10	7.5	2.0	5
CSM	Chemistry	MS	36	12	7.5	2.4	5
CSM	Chemistry	PhD	60	30	7.5	4.0	8
CSM	Computer Science	MS	30	130	7.5	2.0	65
CSM	Computer Science	PhD	48	40	6	4.0	10
College of Management							
CM	Accounting	MS	42	100	8.3	2.5	39
CM	Business Admin	MBA	48	280	8	3.0	93
CM	Business Admin	PhD	40	30	5	4.0	8
CM	Finance	MS	45	50	9	2.5	20
CM	Information Tech	MS	42	50	8.25	2.5	20
CM	International Mngmt	MS	45	15	6.5	3.5	4
College of Nursing and Health Sciences							
CNHS	Exercise & Health Sci	MS	38	20	9.5	2	10
CNHS	Exercise & Health Sci	PhD	60	10	7.5	4.0	3
CNHS	Nursing	MS	48	180	7.5	3.2	56
CNHS	Nursing Practice	DNP	78	40	9	4.3	9
CNHS	Nursing	PhD	60	40	7.5	4	10

Notes. (1) Degree requirements [DR] are taken from UMB website; (2) Enrollment targets [TENR] are estimated for purposes of conducting comparative analysis with actual enrollments; (3) Target credit hour load [TCH] is calculated in order to result in target time to degree; (4) Target time to degree [TTTD] is taken from UMB website or, when not listed, estimated based on standard credit hour load for graduate students; (5) target annual degrees awarded [TDEG] is calculated by dividing enrollment target by target time to degree.

Table 1 continued

			DEG REQ DR ⁽¹⁾	ENR TGT TENR ⁽²⁾	TGT CH LOAD TCH ⁽³⁾	TGT TTD TTTD ⁽⁴⁾	TGT DEG/YR TDEG ⁽⁵⁾
McCormack Graduate School of Policy and Global Studies							
MGS	Conflict Resolution	MA	36	35	9	2.0	18
MGS	Global Gov & Hum Sec	PhD	68	35	9	3.8	9
MGS	Public Administration	MPA	36	60	9	2.0	30
MGS	Public Policy	PhD	67	50	9	3.7	13
MGS	Gerontology	MS	36	120	9	2.0	60
MGS	Gerontology	PhD	69	50	9	3.8	13
College of Education and Human Development							
CEHD	Education	MEd	36	330	9	2.0	165
CEHD	Education Admin	MEd	36	50	9	2.0	25
CEHD	Special Education	MEd	36	60	9	2.0	30
CEHD	Family Therapy	MS	60	30	9	3.3	9
CEHD	Mental Health Coun	MS	60	100	9	3.3	30
CEHD	School Counseling	MEd	60	75	9	3.3	23
CEHD	School Psychology	MEd	66	18	9	3.7	5
CEHD	Education	EdD	65	40	9	3.6	11
CEHD	Higher Education	EdD	60	20	6	5.0	4
CEHD	Higher Education	PhD	72	50	6	6.0	8
CEHD	UrbanEdLdrshp&Pol	PhD	65	10	8	4.1	2
College of Advanced and Professional Studies							
CAPS	Critical & Creative Th	MA	33	30	9	1.8	16
CAPS	Instructional Design	MEd	36	90	9	2.0	45
School for the Environment							
SFE	Environmental Sci	MS	30	20	7.5	2.0	10
SFE	Environmental Sci	PhD	60	30	6	5.0	6
SFE	Marine Science & Tech	MS	33	10	8.25	2.0	5
SFE	Marine Science & Tech	PhD	42	5	9	2.3	2
SFE	Urban Plng&CommDev	MS	48	5	9	2.7	2
School for Global Inclusion and Social Development							
SGISD	Vision Studies	MS	37	100	9	2.1	49
SGISD	Rehabilitation Coun	MS	60	40	9	3.3	12
SGISD	Global Inclusion & SD	MA	39	15	9	2.2	7
SGISD	Global Inclusion & SD	PhD	67	30	9	3.7	8

Notes. (1) Degree requirements [DR] are taken from UMB website; (2) Enrollment targets [TENR] are estimated for purposes of conducting comparative analysis with actual enrollments; (3) Target credit hour load [TCH] is calculated in order to result in target time to degree; (4) Target time to degree [TTTD] is taken from UMB website or, when not listed, estimated based on standard credit hour load for graduate students; (5) target annual degrees awarded [TDEG] is calculated by dividing enrollment target by target time to degree.

Table 2 depicts the benchmark indicators for graduate program success based on the degrees awarded during academic year 2015-16. Variables are explained as follows:

Actual degrees awarded per year (ADEG) – the number of degrees awarded in program during academic year 2015-16.

Actual time to degree (ATTD) – approximate number of years between the admit term and the completion term.

Actual credit hours earned upon degree completion (ACH) – final credit hours accumulated upon degree completion.

Actual credit hour load (ALOAD) – calculated by dividing one-half of the actual credit hours earned by the actual time to degree. This measure represents the approximate mean number of credit hours a graduate student had taken per semester to complete degree requirements by AY 16.

Table 2: Benchmark success indicators based on degrees awarded in academic year 2016

			AY16 Degrees Awarded					
			ACT DEG/YR ADEG ⁽¹⁾	ACT TTD ATTD ⁽²⁾	ACH CH CUM ACH ⁽³⁾	MEAN CH LD ALOAD ⁽⁴⁾	MEAN GPA GPA	SD GPA
College of Liberal Arts								
CLA	American Studies	MA	4	2.8	30.8	5.5	3.72	0.26
CLA	Applied Economics	MA	8	1.9	33.3	8.8	3.82	0.17
CLA	Applied Linguistics	MA	48	3.1	34.1	5.5	3.82	0.23
CLA	Applied Sociology	MA	10	2.3	38.1	8.3	3.70	0.25
CLA	Clinical Psychology	MA	4	3.6	81.5	11.3	3.97	0.03
CLA	Clinical Psychology	PhD	6	7.2	142.7	9.9	3.96	0.07
CLA	Creative Writing	MFA	5	2.8	50.4	9.0	3.98	0.03
CLA	English	MA	26	2.4	35.0	7.3	3.87	0.21
CLA	Historical Archaeology	MA	3	5.0	37.0	3.7	3.86	0.12
CLA	History	MA	22	2.7	31.4	5.8	3.66	0.29
CLA	Human Services	MS	11	2.2	39.8	9.0	3.59	0.25
CLA	Latin & Classical Human	MA	6	2.0	36.5	9.1	3.93	0.06
College of Science and Mathematics								
CSM	Applied Physics	MS	8	2.8	35.8	6.4	3.69	0.19
CSM	Applied Physics	PhD	<i>Information not available</i>					
CSM	Biology	MS	3	3.4	34.3	5.0	3.78	0.07
CSM	Biology	PhD	5	8.8	75.6	4.3	3.92	0.09
CSM	BioMed Eng & Biotch	PhD	<i>Information not available</i>					
CSM	Biotec & Biomed Sci	MS	2	4.0	42.5	5.3	3.78	0.31
CSM	Chemistry	MS	5	5.0	47.6	4.8	3.59	0.23
CSM	Chemistry	PhD	2	5.3	82.0	7.7	3.34	0.44
CSM	Computer Science	MS	53	2.1	33.0	7.9	3.58	0.26
CSM	Computer Science	PhD	7	5.4	86.3	8.0	3.77	0.12
College of Management								
CM	Accounting	MS	38	2.7	39.4	7.3	3.65	0.23
CM	Business Admin	MBA	85	2.6	48.7	9.4	3.73	0.19
CM	Business Admin	PhD	1	4.0	56.0	7.0	3.97	0.00
CM	Finance	MS	20	2.3	40.4	8.8	3.76	0.13
CM	Information Tech	MS	20	2.2	47.2	10.7	3.66	0.21
CM	International Mngmt	MS	3	2.0	61.0	15.3	3.69	0.18
College of Nursing and Health Sciences								
CNHS	Exercise & Health Sci	MS	9	2.1	38.2	9.1	3.79	0.15
CNHS	Exercise & Health Sci	PhD	<i>Information not available</i>					
CNHS	Nursing	MS	56	3.2	48.6	7.6	3.85	0.12
CNHS	Nursing Practice	DNP	9	3.3	41.0	6.2	3.78	0.12
CNHS	Nursing	PhD	4	4.5	83.3	9.3	3.87	0.05

Notes. (1) Actual number of degrees awarded [ADEG] for AY16; (2) Actual time to degree [ATTD] is approximately the number of years between admit term and completion term; (3) Actual credit hours accumulated upon program completion [ACH] ; (4) Actual credit hour load [ALOAD] is calculated by dividing actual credit hours earned by actual time to degree.

Table A-2 continued

			AY16 Degrees Awarded					
			ACT DEG/YR ADEG ⁽¹⁾	ACT TTD ATTD ⁽²⁾	ACH CH CUM ACH ⁽³⁾	MEAN CH LD ALOAD ⁽⁴⁾	MEAN GPA GPA	SD GPA
McCormack Graduate School of Policy and Global Studies								
MGS	Conflict Resolution	MA	10	3.9	36.4	4.7	3.77	0.17
MGS	Global Gov & Hum Sec	PhD	8	2.6	51.9	10.0	3.77	0.22
MGS	Public Administration	MPA	28	2.6	36.0	6.9	3.69	0.23
MGS	Public Policy	PhD	2	10.0	64.0	3.2	3.73	0.06
MGS	Gerontology	MS	40	3.0	34.7	5.8	3.74	0.23
MGS	Gerontology	PhD	7	10.8	66.9	3.1	3.78	0.20
College of Education and Human Development								
CEHD	Education	MEd	179	2.3	36.4	7.9	3.84	0.16
CEHD	Education Admin	MEd	20	1.7	36.8	10.8	3.85	0.08
CEHD	Special Education	MEd	35	3.4	39.7	5.8	3.81	0.16
CEHD	Family Therapy	MS	19	3.4	63.5	9.3	3.93	0.08
CEHD	Mental Health Coun	MS	41	2.5	60.5	12.1	3.91	0.12
CEHD	School Counseling	MEd	22	2.4	60.1	12.5	3.94	0.09
CEHD	School Psychology	MEd	6	2.0	55.5	13.9	3.99	0.03
CEHD	Education	EdD	2	5.8	67.5	5.8	3.99	0.01
CEHD	Higher Education	EdD	<i>Information not available</i>					
CEHD	Higher Education	PhD	7	6.5	72.4	5.6	3.86	0.11
CEHD	UrbanEdLdrshp&Pol	PhD	3	4.9	72.7	7.4	3.96	0.05
College of Advanced and Professional Studies								
CAPS	Critical & Creative Th	MA	8	2.9	33.4	5.8	3.80	0.19
CAPS	Instructional Design	MEd	32	2.8	37.5	6.7	3.94	0.10
School for the Environment								
SFE	Environmental Sci	MS	7	3.3	53.9	8.2	3.81	0.12
SFE	Environmental Sci	PhD	3	8.7	88.7	5.1	3.58	0.16
SFE	Marine Science & Tech	MS	2	3.8	51.0	6.7	3.90	0.04
SFE	Marine Science & Tech	PhD	2	6.5	70.0	5.4	3.86	0.12
SFE	Urban Plng&CommDev	MS	<i>Information not available</i>					
School for Global Inclusion and Social Development								
SGISD	Vision Studies	MS	22	3.2	42.0	6.6	3.73	0.24
SGISD	Rehabilitation Coun	MS	8	3.2	61.5	9.6	3.77	0.16
SGISD	Global Inclusion & SD	MA	<i>Information not available</i>					
SGISD	Global Inclusion & SD	PhD	<i>Information not available</i>					

Notes. (1) Actual number of degrees awarded [ADEG] for AY16; (2) Actual time to degree [ATTD] is approximately the number of years between admit term and completion term; (3) Actual credit hours accumulated upon program completion [ACH] ; (4) Actual credit hour load [ALOAD] is calculated by dividing actual credit hours earned by actual time to degree.

Actual Metrics for Graduate Student Success

Table 3 depicts the key metrics based on actual enrollment totals for respective graduate programs during the Fall 2016 semester. Variables are explained as follows:

Actual enrollment (ENR) – the number of students enrolled in graduate program during Fall 2016 semester.

Actual attrition (ATTR) – the attrition for a program is calculated as the number of degree-seeking graduate students that were enrolled in Fall 2015 and neither graduated by or enrolled in Fall 2016.

Actual attrition rate (%ATTR) – actual attrition divided by actual enrollment during the Fall 2015 semester.

Actual credit hour load (CH) – actual mean credit hours taken by graduate students for respective program during the Fall 2016 semester.

Projected time to degree (PTTD) – calculated as the actual credit hours accumulated by AY16 graduates divided by the actual credit hour load during Fall 2016 semester.

Projected annual degrees awarded (PDEG) – calculated by subtracting attrition from Fall 2016 enrollment and then dividing by projected time to degree.

These metrics serve as good benchmark indicators to augment assessment efforts of graduate programs. For example, the academic performance of international graduate students, including Navitas students, can be assessed using these benchmark indicators for tracking student success.

Table 3: Enrollment metrics for Fall 2016

			Fall 2016 Enrollment					
			ACT ENR ENR ⁽¹⁾	ACT ATTR ATTR ⁽²⁾	ATTR RATE %ATTR ⁽³⁾	ACT CH LOAD CH ⁽⁴⁾	PROJ TTD PTTD ⁽⁵⁾	PROJ DEG/YR PDEG ⁽⁶⁾
College of Liberal Arts								
CLA	American Studies	MA	20	2	11%	5.1	3.0	6.0
CLA	Applied Economics	MA	15	3	16%	7.6	2.2	5.5
CLA	Applied Linguistics	MA	150	25	16%	4.6	3.7	33.7
CLA	Applied Sociology	MA	13	3	23%	8.5	2.2	4.5
CLA	Clinical Psychology	MA	n/a	n/a	n/a	n/a	n/a	n/a
CLA	Clinical Psychology	PhD	53	9	16%	11.3	6.3	7.0
CLA	Creative Writing	MFA	26	8	29%	7.5	3.4	5.4
CLA	English	MA	59	10	16%	7	2.5	19.6
CLA	Historical Archaeology	MA	49	6	13%	3.6	5.1	8.4
CLA	History	MA	72	17	23%	4.1	3.8	14.4
CLA	Human Services	MS	25	3	10%	7.8	2.6	8.6
CLA	Latin & Classical Human	MA	14	3	17%	6.9	2.6	4.2
College of Science and Mathematics								
CSM	Applied Physics	MS	18	6	24%	6.8	2.6	4.6
CSM	Applied Physics	PhD	4	0	0%	3.5	n/a	n/a
CSM	Biology	MS	10	2	18%	2.7	6.4	1.3
CSM	Biology	PhD	55	2	4%	6.1	6.2	8.6
CSM	BioMed Eng & Biotch	PhD	4	0	0%	3.8	n/a	n/a
CSM	Biotec & Biomed Sci	MS	3	0	0%	7	3.0	1.0
CSM	Chemistry	MS	13	1	9%	8.6	2.8	4.3
CSM	Chemistry	PhD	30	4	15%	8	5.1	5.1
CSM	Computer Science	MS	126	9	7%	8.8	1.9	62.4
CSM	Computer Science	PhD	36	2	6%	8.3	5.2	6.5
College of Management								
CM	Accounting	MS	98	9	9%	7.4	2.7	33.4
CM	Business Admin	MBA	299	39	15%	7.6	3.2	81.1
CM	Business Admin	PhD	37	3	11%	8.5	3.3	10.3
CM	Finance	MS	55	9	20%	8	2.5	18.2
CM	Information Tech	MS	42	4	10%	7.8	3.0	12.6
CM	International Mngmt	MS	13	3	23%	6.7	4.6	2.2
College of Nursing and Health Sciences								
CNHS	Exercise & Health Sci	MS	13	2	14%	9.6	2.0	6.5
CNHS	Exercise & Health Sci	PhD	6	2	40%	7.8	n/a	n/a
CNHS	Nursing	MS	168	9	5%	6.4	3.8	41.9
CNHS	Nursing Practice	DNP	39	5	13%	4.8	4.3	8.0
CNHS	Nursing	PhD	42	1	3%	5.6	7.4	5.5

Notes. (1) Actual enrollment [ENR] during Fall 2016 semester; (2) Attrition [ATTR] is calculated as the number of degree-seeking grad students enrolled in F2015 that either did not graduate in AY16 nor were enrolled in F2016; (3) Attrition rate [%ATTR] is attrition divided by actual enrollment; (4) Actual credit hour load [CH] is the mean credit hours taken by grad students in that program for Fall 2016 semester; (5) Projected time to degree [PTTD] is calculated as the actual credit hours accumulated by graduates in AY15 divided by the actual credit hours taken in Fall 2015; (6) Projected annual degrees awarded [PDEG] is calculated by subtracting attrition from enrollment and then dividing by projected time to degree.

Table 3 continued

			Fall 2016 Enrollment					
			ACT ENR ENR ⁽¹⁾	ACT ATTR ATTR ⁽²⁾	ATTR RATE %ATTR ⁽³⁾	ACT CH LOAD CH ⁽⁴⁾	PROJ TTD PTTD ⁽⁵⁾	PROJ DEG/YR PDEG ⁽⁶⁾
McCormack Graduate School of Policy and Global Studies								
MGS	Conflict Resolution	MA	39	4	13%	5.3	3.4	10.2
MGS	Global Gov & Hum Sec	PhD	43	0	0%	6.1	4.3	10.1
MGS	Public Administration	MPA	66	6	10%	7.9	2.3	26.3
MGS	Public Policy	PhD	47	12	24%	4.6	7.0	5.0
MGS	Gerontology	MS	82	24	22%	4.9	3.5	16.4
MGS	Gerontology	PhD	47	3	6%	4.6	7.3	6.1
College of Education and Human Development								
CEHD	Education	MEd	261	96	29%	6.9	2.6	62.6
CEHD	Education Admin	MEd	40	7	17%	10.3	1.8	18.5
CEHD	Special Education	MEd	44	14	23%	5.5	3.6	8.3
CEHD	Family Therapy	MS	10	2	7%	6.3	5.0	1.6
CEHD	Mental Health Coun	MS	90	19	19%	9.3	3.3	21.8
CEHD	School Counseling	MEd	71	8	12%	9.9	3.0	20.8
CEHD	School Psychology	MEd	20	0	0%	12	2.3	8.6
CEHD	Education	EdD	31	6	16%	3.2	10.5	2.4
CEHD	Higher Education	EdD	15	2	13%	3	n/a	n/a
CEHD	Higher Education	PhD	46	3	7%	3.5	10.3	4.2
CEHD	UrbanEdLdrshp&Pol	PhD	23	0	#DIV/0!	7.1	5.1	4.5
College of Advanced and Professional Studies								
CAPS	Critical & Creative Th	MA	24	6	24%	5	3.3	5.4
CAPS	Instructional Design	MEd	66	10	11%	3.9	4.8	11.6
School for the Environment								
SFE	Environmental Sci	MS	21	4	21%	6	4.5	3.8
SFE	Environmental Sci	PhD	24	3	12%	7.9	5.6	3.7
SFE	Marine Science & Tech	MS	8	0	0%	6	4.3	1.9
SFE	Marine Science & Tech	PhD	10	0	0%	10.9	3.2	3.1
SFE	Urban Plng&CommDev	MS	12	1	17%	7.9	n/a	n/a
School for Global Inclusion and Social Development								
SGISD	Vision Studies	MS	119	20	19%	4.7	4.5	22.2
SGISD	Rehabilitation Coun	MS	30	8	24%	8.3	3.7	5.9
SGISD	Global Inclusion & SD	MA	16	4	40%	7.3	n/a	n/a
SGISD	Global Inclusion & SD	PhD	30	2	7%	8.3	n/a	n/a

Notes. (1) Actual enrollment [ENR] during Fall 2016 semester; (2) Attrition [ATTR] is calculated as the number of degree-seeking grad students enrolled in F2015 that either did not graduate in AY16 nor were enrolled in F2016; (3) Attrition rate [%ATTR] is attrition divided by actual enrollment; (4) Actual credit hour load [CH] is the mean credit hours taken by grad students in that program for Fall 2016 semester; (5) Projected time to degree [PTTD] is calculated as the actual credit hours accumulated by graduates in AY15 divided by the actual credit hours taken in Fall 2015; (6) Projected annual degrees awarded [PDEG] is calculated by subtracting attrition from enrollment and then dividing by projected time to degree.

Conclusion

Time to degree is a key measure for graduate student success. A key indicator for tracking graduate student progress involves the credit hours taken per semester. The credit hour load for a student can project the time to degree as well as provide an indication of student involvement in their degree program. Student involvement is a predictor of student success, especially for doctoral programs. Additionally, grades are a predictor of student success for master's programs.

Girves, J. E., & Wemmerus, V. (1988). Developing models of graduate student degree progress. *Journal of Higher Education* 59/2.