EASTERN ILLINOIS UNIVERSITY

Report of
The Ad Hoc Committee on Optimum Enrollment

December 20, 2002

INTRODUCTION

The Ad Hoc Committee on Optimum Enrollment examined Eastern Illinois University's capacity for providing instruction in order to estimate an optimum number for on-campus student enrollment. In addition, housing and other student support services and the fiscal ramifications of the number of students enrolled were considered. For purposes of this report the term capacity means "constraint" or "upper limit".

The charge of the committee was to focus on on-campus undergraduate enrollment. For purposes of total enrollment the ten-year average for the number of graduate students (1,081) was utilized. Further, all deliberations assumed current resource levels.

RESOURCES & METHODOLOGY

Three business concepts for the viewing of capacity were utilized in the committee's deliberations: **theoretical, normal, and practical**. They are explained below:

Theoretical Capacity is based on the physical seats (or stations) available. This concept is theoretical in the sense that it does not allow for the consideration of the appropriateness of a given classroom (based on size, number and arrangement of stations, location, equipment, etc.) in relation to the actual instructional needs in any given term. Ideally, it represents the maximum capacity of the physical campus. ***Theoretical Capacity*** is unattainable in the real world.

Normal Capacity is the number of students that have enrolled in classes. It is the demand for classroom seats based on actual enrollments over a period of time.

Determination of ***Practical Capacity*** involved the consideration of the size and make up of the instructional staff and student demand for given programs. Other constraints include those relative to scheduling teaching assignments and classrooms with the special equipment/ location required in some courses. Finally, the relationship between resources and demand for specific academic programs was considered. For the purposes of this report, ***Practical Capacity*** was viewed globally and equals optimum on-campus enrollment.

The committee collected quantitative and qualitative data in an attempt to develop an algorithm to be used to determine the optimum on-campus enrollment for Eastern.

This proved impossible because of a myriad of complicating factors. Therefore, while the final estimate of optimum on-campus enrollment was based on the data discovered, it was tempered by the collective experience and judgment of the committee members.

Theoretical Capacity was estimated from the data regarding rooms and stations (physical "seats") found in the Fall 2001 Space Utilization Report (Appendix 1), the Spring 2002 Student Enrollment vs. Space Utilization Report (Appendix 2), the Spring 2002 Space Utilization Report (Appendix 3), and the Fall 2002 Space Utilization Report (Appendix 4) provided by the Facilities Planning and Management Division. The reason it is only estimated is that it is a moving target with individual class rooms as well as buildings in and out of service.

In order to determine ***Normal Capacity*** the committee examined the maximum seats assigned and utilization data from the Facilities Planning and Management Division (Aggregated in Appendix 5) and the Fall On-Campus Enrollment Data: Fall Ten Year Comparison (Appendix 6) generated by the Office Of Enrollment Management.

To calculate approximate ***Practical Capacity***, the data cited above was employed along with actual enrollments by major (See Appendix 7). In addition, department chairs were asked for an estimate of the optimum number of majors their department could instruct given current resource levels and service commitments. A copy of the request form is in Appendix 8.

Other elements factored into the determination of the ***Practical Capacity*** of Eastern were housing (See Appendix 9) and other student support services. Finally, the committee examined IBHE productivity reports to try and ascertain the possible fiscal ramifications of various levels of student enrollment. (See Appendix 10)

FINDINGS

THEORETICAL CAPACITY

According to the spring 2002 *Student Enrollment vs. Space Utilizations* report of the Facilities Planning and Management Division the estimated capacity based on the available physical space is 8,579 as shown in Figure 1. Again, this is an approximation based on the information available at this time.

Figure 1: All Potential Classrooms and Laboratories

Room Type	No. of Rooms	Sq Ft	Student Stations
Classroom	149	113,635	6,047
class lab	72	70,016	1,553
open lab	55	38,945	783

research lab	45	13,842	196
Campus Total	**321**	**236,438**	**8,579**

Source: Spring 2002 *Student Enrollment vs. Space Utilization* report

If the number of classes per student is estimated at 5, then the approximate student capacity of the University is obtained by dividing the available stations by 5 as shown in Figure 2. The resulting numbers are 15,442 for courses before 5:00pm and 5,147 for courses after 5:00pm. These numbers assume every seat in every instructional space is occupied every hour of the day from 8:00am until 8:00pm.

If seventy-five percent (75%) is used as the conventional wisdom regarding the maximum amount of a university's instructional space it is possible to schedule, a day-time utilization of 11,582 and an evening utilization of 3,861 (Figure 2) results. Hence, an educated guess regarding the ***Theoretical Capacity*** for on-campus students at Eastern is 15,442.

Figure 2: Estimate of Physical Capacity

Period	Time	AVAILABLE STATIONS/SEATS	NUMBER OF SEATS PER STUDENT	MAXIMUM PHYSICAL OCCUPANCY	MAXIMUM POSSIBLE UTILIZATION (75%)
1	8am	8,579			
2	9am	8,579			
3	10am	8,579			
4	11am	8,579			
5	12pm	8,579			
6	1pm	8,579			
7	2pm	8,579			
8	3pm	8,579			
9	4pm	8,579			
Daytime Total		**77,211**	**5**	**15,442**	**11,582**
10	5pm	8,579			
11	6pm	8,579			
12	7pm	8,579			
Evening Total		**25,737**	**5**	**5,147**	**3,861**
TOTAL		**102,948**	**5**	**20,590**	**15,442**

NORMAL CAPACITY

Figure 3 displays the actual on-campus student enrollment in various categories for 1993 to 2002. Given these numbers it is reasonable to state that the ***Normal Capacity*** of the University is 10,427. This would include 9,346 undergraduate and 1,081 graduate students.

Figure 3: Actual Enrollment - 1993 to 2002

	NUMBER											10 YEAR
CATEGORY	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	AVG	CHANGE
Head Count	10,693	10,539	10,567	10,775	10,816	10,790	10,448	9,834	9,653	10,153	10,427	-540
FTE	10,190	10,029	9,998	10,282	10,333	10,259	9,913	9,308	9,037	9,522	9,887	-668
Full-Time	9,556	9,412	9,329	9,650	9,813	9,723	9,455	8,871	8,642	9,147	9,360	-409
Part-Time	1,137	1,127	1,238	1,238	1,003	1,067	993	963	1,011	1,006	1,078	-131
Undergraduate	9,572	9,421	9,376	9,640	9,772	9,726	9,411	8,878	8,630	9,029	9,346	-543
Graduate	1,121	1,118	1,191	1,135	1,044	1,064	1,037	956	1,023	1,124	1,081	3

Source: ON-CAMPUS ENROLLMENT DATA: Fall Ten Year Comparison

PRACTICAL CAPACITY

There are several ways to approach the estimation of ***Practical Capacity***. Perhaps the easiest way is to look at the actual enrollment over a period (see Figure 3) and say that when enrollment was at its peak in 1997 (10,816) across campus the general feeling was that there were too many students. Further, the feeling was that there were not enough students when the enrollment was at its lowest in 2001 (9,653). Utilizing this method the ***Practical Capacity*** is somewhere between 9,653 and 10,816.

Another method is to use a selected student/faculty ratio. In his FY04 Planning Initiatives, the Provost declared the goal for this ratio to be 18 to 1. The Fall 2002 faculty count is shown in Figure 4.

Figure 4: Departmental Faculty Fall 2002 (includes Department Chairs)

	Full-Time		Part-Time	
Academic Rank	Number	Percent	Number	Percent
Professor	206	35.20%	10	13.50%
Associate Professor	121	20.70%	4	5.40%
Assistant Professor	106	18.10%	1	1.40%
Instructor	151	25.80%	59	79.70%
Lecturer	1	0.20%	0	0.00%
Total	**585**	**100.00%**	**74**	**100.00%**

Source: Planning & Institutional Studies (http://www.eiu.edu/~planning/fact/fa02/FSfacult.html)

Figure 5 displays the calculation of practical on-campus enrollment numbers based on the student/ faculty ratio. If only full-time faculty members are considered the ***Practical Capacity*** is 10,530. Factoring in part-time faculty the number grows to 10,863 assuming an average load of 25%, and 11,196, if the average load is 50%. So, this calculation places the ***Practical Capacity*** between 10,530 and 11,196 students. It is likely that the actual part-time load is closer to 25% which yields a ***Practical Capacity*** of 10,863.

Figure 5: Projections Based on Student/Faculty Ratio

Full-Time	Part-Time FTE	Total	Students per Faculty	Total Projected Enrollment	Projected Undergraduate Enrollment [4]
585	0	585 [1]	18	10,530	9,449
585	19	604 [2]	18	10,863	9,782
585	37	622 [3]	18	11,196	10,115

1 = Full-time only.
2 = Full-time plus part-time at 25%.
3 = Full-time plus part-time at 50%.
4 = Total minus graduate students (1,081 = 10 year average).

Another means employed to gather information regarding the ***Practical Capacity*** was to ask the chairs for their best estimate regarding their departments' capacity for undergraduate majors. The sum of the numbers returned was 8,980. Since there are usually around 1,200 undeclared students enrolled in a given fall term, the ***Practical Capacity*** could be said to be 10,180 undergraduate students.

Consideration of this number must be tempered with the understanding that ideal distribution of students across majors is generally not possible. Demand for majors changes over time and institutions of higher education are not well equipped to react quickly to these changing demands.

OTHER FACTORS

Student Affairs: When considering the optimum enrollment for the campus, the impact on the quality of student services supporting the academic experience at Eastern is the primary concern. All Student Affairs departments with the exception of the Counseling Center rely on student and user fees for their operational needs. Establishing an optimum enrollment that will support the staffing levels, fiscal resources, and physical capacity of the departments is critical to maintaining the high level of service currently afforded students.

Student Affairs has demonstrated it can provide quality services to the student population regardless of the size of it student body. However, the optimum on-campus enrollment would be between 10,500 and 11,000 students (undergraduate and graduate).

In evaluating the Student Affairs capacity, there are three concerns. First, while quality service will always continue, some of the offerings may need to experience cutbacks due to a shortage of funding. Secondly, if the enrollment pattern stabilizes producing a significant increase in size of the upperclassmen levels, some of the Student Affairs departments will require additional staffing and monetary resources. And, third, an entering freshman class of 1,900 represents the break even point for the Housing budget. An incoming freshman class above 1,900 allows for a more aggressive renovation program resulting in improved housing.

Fiscal/Political: Basic economic principals can be utilized to form a fiscal perspective to address optimum enrollment. In a purely economic sense credit hours could increase to a point where the incremental variable costs would not be covered. In business, as long as the increases in productivity provide dollars to cover incremental variable cost and some portion of the fixed costs, production increases. This assumes quality is not degraded in the process and the demand continues.

The fact is that the Illinois Board of Higher Education and the Legislature review the average credit hour production of the state universities during their budget

consideration. The average is simply the total credit hours generated divided by the total number of "staff years".

Reviewing the latest data available (FY01) for credit hours generated by faculty "staff year", Eastern (Figure 6) was under the state average by 12.5% for undergradua tes. The undergraduate enrollment for Fall 2001 was 8,630. A 12.5% enrollment increase would have yielded 302,465 credit hours. This equates to 9,705 on-campus undergraduate students enrolled in 30 credit hours per year. This 12.5% increase would have resulted in Eastern being at the state-wide average for FY01.

Figure 6: IBHE Productivity Report Summary: 2000-2001

	Student Credit Hours	Direct Instruction Staff Years	Credit Hour Per Staff Year	EIU Credit Hours Compared to State Credit Hours
2000-2001				
UNDERGRADUATE				
EIU	268,858	358	752	-12.5%
STATE	3,915,577	4,556	859	

Source: Data Book on Illinois Higher Education, 2002

SUMMARY

The committee's primary effort was given to consideration of on-campus undergraduate enrollment. In some instances, it was not possible (or useful) to separate graduate and undergraduate figures in the calculations. In any case, the ten-year average for the number of graduate students (1,081) was utilized in going from undergraduate to total students or total to undergraduate students. The final conclusions are offered in terms of total on-campus students. Further, all deliberations assumed current resource levels.

- Based on the physical stations or seats available the estimated ***Theoretical Capacity*** for on-campus total students at Eastern is 15,442.
- Based on the 10 year average of actual fall on-campus total enrollments, the ***Normal Capacity*** of the University is 10,427.
- Utilizing actual 10-year total enrollment figures, the ***Practical Capacity*** is somewhere between 9,653 and 10,816.
- Basing calculations on a student/faculty ratio 18 to 1 the ***Practical Capacity*** for total students is between 10,530 (full-time faculty only) and 11,196 (full-time plus part-time at 50% load).
- Adding 1,200 undeclared students to the sum of the chairs best estimates regarding the number of majors (8,980) yields a ***Practical Capacity*** of 10,180 undergraduate students and 11,261 total on-campus students.
- The Student Affairs ***Practical Capacity*** is between 10,500 and 11,000 total on-campus students.
- Calculating the number of students needed to bring Eastern to the state-wide average credit hours generated by faculty "staff year" in FY01 resulted in 9,705 undergraduates and 10,786 total on-campus students.

The committee considered the variety of factors which resulted in varying estimates of capacity at Eastern. These estimates for total on-campus undergraduate and graduate student enrollment capacity range from 9,653 (See Figure 3) to 15,442 (See Figure 2)

CONCLUSIONS

Based on a review of the numbers associated with ***Normal Capacity*** and ***Practical Capacity,*** the optimum total on-campus undergraduate and graduate enrollment for Eastern Illinois University falls in the 10,400 to 11,000 range. The first thing to note is that this is well below the University's ***Theoretical Capacity*** of approximately 15,400. Therefore, a physical limitation does not exist relative to the optimum on-campus enrollment number.

In order to narrow this range, consideration was given to the campus feeling that 10,816 students exceeded capacity in 1997. Further, if in the student/faculty ratio scenario, the actual part-time load is actually 25%; a ***Practical Capacity*** of 10,863 emerges. Also, the fact that the estimate of the chairs represents an ideal distribution of students that is not likely to be realized informed the committee's deliberations.

Therefore, by consensus, the committee recommends an optimum total on-campus undergraduate and graduate student enrollment for Eastern Illinois University of **10,400 to 10,800**.

FURTHER CONSIDERATIONS

With regard to the ***Practical Capacity*** as defined by the credit hours production model, the committee notes that the number calculated does not fall outside the given range. The committee recognizes the potential fiscal and political benefit of adopting an optimum enrollment strategy whereby the credit hours generated by a faculty "staff year" fall approximately within the state-wide average. However, it is recommended that continued priority be given to Eastern's positioning as a comprehensive university with small classes and personal attention.

The committee recognizes that determining the total on-campus optimum enrollment for the university is only one factor in managing enrollment. The development of an enrollment matrix to address the make-up of on-campus enrollment is the next initiative for the university to consider. The enrollment matrix would determine student enrollments by class level. Factors to be addressed would include size of the entering freshmen and transfer classes along with student retention and graduation rates. The committee recommends that the Enrollment Management Advisory Committee' s sub-committee on entering class data be charged with developing this matrix.

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