ORGANIZATIONAL REVIEW PHASE II – 3: STREAMLINING INSTRUCTIONAL PROGRAM DELIVERY

The following report presents the findings and recommendations of MGT of America, Inc., from Phase II – 3, Streamlining Instructional Program Delivery – Part 1, of the organizational review of the institutions under the control of the Board of Regents, State of Iowa. MGT recognizes the efforts made by the universities to cut costs and make efficiencies since the project started. The universities have done an outstanding job to bring their budgets in line with available resources while still preserving the quality of academic programs. Those efforts provide a context for any proposed additional efforts to make the universities more efficient and effective.

1. PROJECT BACKGROUND

In June 2001, the Board of Regents contracted with MGT to conduct an organizational review of the five institutions, the Board itself, and the Board's office. The review was to be conducted to determine how well structured and efficient each institution is, as well as the institutions and the Board as a system. That organizational review was a comprehensive assessment of the programs, services, and administrative operations of the three state universities (excluding the University of Iowa Hospitals and Clinics), the two special schools, and the Board office. As such, the review considered:

- ***Academic programs.*** Do current and planned programs support the mission of the institution? Are appropriate measures in place to ensure that academic offerings operate within reasonable levels of efficiency?

Several aspects of university operations were excluded from the scope of the organizational review. An example of such an exclusion is the University of Iowa Hospitals and Clinics. Also, issues related to the quality of specific academic programs were outside the scope of the review. In Phase I of the project, the Board sought assistance in structuring the scope of work to be undertaken in Phases II and III of the organizational review.

MGT recommended a list of specific projects to be undertaken in Phase II (generally short-term studies that can be completed in the following six months) and Phase III (longer-term studies). This report provides information on the short-term studies related to Academic Programs completed as part of Phase II – 3, Part 1 of Streamlining Instructional Program Delivery. This report covers the following areas:

- Course duplication
- Course sizes and scheduling
- Articulation of community college students
- Total credit hours to graduate
- Summer enrollments
- Enrollment management
- Remedial courses.

Since the Board received the organizational review Phase I report in January 2002, the Board Office and institutional representatives worked with MGT to develop a work plan to address this recommendation. The work plan consisted of fourteen major activities:

1. Request and review documents from the universities related to course duplication, course sizes and scheduling, articulation of community college students, total credit hours to graduate, summer enrollments, and remedial courses.
2. Identify through examination of reports, material already received, and additional materials efforts already undertaken by the universities in these areas.
3. Conduct additional interviews on each campus to determine improvements.
4. Identify courses with identical or similar content offered across the curricula and evaluate the merit of separate offerings.
5. Review course scheduling procedures, class size data, and classroom space utilization, and compare to peer institution data.
6. Review existing articulation agreements with community colleges, and identify areas where students may “lose” credits due to non-transferability. Review policies related to credit through examination or dual credits.
7. Determine average time and credit hours to graduation.
8. Analyze facilities utilization in each semester, including summer term. Determine average summer class sizes, and the depth and breadth of summer term offerings.
9. Review enrollment management data, especially in light of recent budget cuts, and presidential calls for enrollment caps.

10. Review student retention rates and strategies used to recruit, retain, and graduate students.
11. Identify the need for remedial courses, by identifying the percentage of students requiring such courses, and disciplines.
12. Determine where efficiencies can be found.
13. Develop draft recommendations for improvements/changes in each area where warranted and review with Board Office and university staff.
14. Prepare final recommendations for improvement of instructional delivery systems.

MGT staff visited each of the Regents' universities as a part of the study, and conferred with the faculty, staff, administration, and students regarding the issues in this component of the review. The following paragraphs provide the findings and recommendations from this phase.

2. COURSE DUPLICATION

In its Phase I assessment of the institutions under the Board of Regents, MGT observed that there appeared to be a significant number of low-enrollment, duplicated courses within each university, and that opportunities existed for reducing academic costs. For example, one of the universities provided five introductory calculus courses: Calculus for the Biological Sciences, Calculus and Matrix Algebra for Business; Engineering Calculus, Calculus, and Calculus and Modeling. Several of these courses had small enrollments.

In Phase II MGT gathered information from the Course Catalogs and Class Schedules of the University of Iowa, Iowa State University, and the University of Northern Iowa. A content analysis was completed to identify any course that potentially might be duplicative of the material in other courses offered in other departments (or in the same department) of the university.

An initial analysis of the data indicated that potential course duplications occurred at each university in mathematics, history, statistics, engineering, English, writing,

economics, and information systems and management. In addition, there appeared to be duplications between courses offered to undergraduates and similar courses offered to graduate students. For example, advanced undergraduate statistics courses appeared to have the same content or course title as graduate statistics courses in the social sciences.

To determine if there were duplications, more detailed content analysis was completed to compare the contents of those courses identified in the initial analysis. Actual course descriptions were compared to determine content overlap. If the majority of the subject matter was determined to overlap, then the courses were identified as potentially duplicative.

Please note that the term "potentially duplicative" is used to describe these courses with overlapping content matter. It is not possible to say with any degree of certainty that courses as taught actually cover the exact material listed in the course catalogs. A detailed examination of the syllabuses of the courses may reveal that the courses are not so duplicative as to warrant a recommendation for elimination or consolidation. In addition, enrollments in the courses may be such that elimination of the course is not possible. Detailed examination of the syllabuses for each course was beyond the scope of this phase of the study, and should be completed in Phase III before courses are eliminated.

Given those caveats, nonetheless, all three universities have a significant number of courses that appear to overlap. From the examination of the course catalogues, it appears that UI has 38 courses that are overlapping with one or more other courses. At UNI, there are 36 courses that overlap. And at ISU, there are 34 courses that overlap. Each institution's courses that appear to overlap are displayed in Exhibits 1, 2, and 3.

If these courses do overlap, had low enrollments, and could accommodate the students from the other courses, potentially the institutions could eliminate up to 108 courses. It is very unlikely that all of the students in these classes could be

accommodated in the other courses, assuming that the coursework is duplicative. If 50 to 75 percent of the overlapping courses could be eliminated, a total of 54 to 81 courses across the 3 universities would be removed.

RECOMMENDATION 1:

The Regent universities should examine in detail in Phase III the duplicative courses identified in Phase II. Analysis should include comparisons of enrollments, time of day that each course is offered, and course syllabi.

If every student could be accommodated in the remaining classes, and assuming that the average professor teaches 3-4 courses per year, this could mean the potential to eliminate 13 to 27 faculty positions, at an annual savings that would vary from about $60,000 per faculty member at UNI, $70,000 at ISU, and $85,000 at UI. The total of all these potential reductions could result in potential savings of up to $1.9 million per year. This calculation assumes that full-time faculty members are teaching these courses.

EXHIBIT 1
UNIVERSITY OF IOWA OVERLAPPING COURSES

BASE COURSE			OVERLAPPING COURSES		
Dept.	**Course #**	**Course Name**	**Dept.**	**Course #**	**Course Name**
Math	22M:015	Mathematics for the Biological Sciences	Math	22M:009	Elementary Functions
Math	22M:016	Calculus for the Biological Sciences	Math	22M:017	Calculus and Matrix Algebra for Business
			Math	22M:021	Calculus and Modeling I
			Math	22M:025	Calculus I
			Math	22M:035	Math
Math	*22M:022	Calculus and Modeling II	Math	22M:026	Calculus II
			Math	22M:036	Engineering Calculus II
Math	22M:041	Differential Equations for Engineers	Math	22M:047	Linear Algebra and Differential Equations for Scientists
Math	22M:042	Vector Calculus for Engineers	Math	22M:048	Vector Calculus for Scientists
Math	22M:081	Geometry for Elementary Teachers	Math	22M:003	Basic Geometry
Civil & Environmental	053:113	Mathematical Methods in Engineering	Math	22M:027	Introduction to Linear Algebra
			Civil & Environmental	053:211	Methods of Engineering Mathematics
Mechanical	058:113	Mathematical Methods in Engineering	Math	22M:027	Introduction to Linear Algebra
			Mechanical	058:210	Methods of Engineering Mathematics
Physics & Astronomy	029:171	Mathematical Methods of Physics	Mathematics	22M:027	Introduction to Linear Algebra
English	08N:113	Writing for Business and Industry	English	08N:015	Writing for Practical Purposes
			English	08N:133	Advanced Writing for Business
Statistics	22S:008	Statistics for Business	Statistics	22S:025	Elementary Statistics and Inference
			Statistics	22S:030	Statistical Methods and Computing
			Statistics	22S:039	Probability and Statistics for the Engineering and Physical Sciences
Industrial	056:176	Applied Linear Regression	Statistics	22S:150	Introduction to Discrete Mathematics
Industrial	056:270	Linear Programming	Computer Science	22C:174	Optimization Techniques
Industrial	056:271	Nonlinear Programming	Computer Science	22C:174	Optimization Techniques
Industrial	056:273	Stochastic Systems	Statistics	22S:174	Stochastic Process Models
			Statistics	22S:195	Probability and Stochastic Processes I
Political Science	030:305	Advanced Nonlinear Models	Statistics	22S:162	Applied Generalized Regression
			Statistics	22S:257	Generalized Regression Models
Anthropology	113:210	Anthropological Data Analysis	Statistics	22S:105	Statistical Methods and Computing
			Statistics	22S:164	Applied Statistics I
Sociology	034:215	Sampling, Measurement, and Observation Techniques	Statistics	22S:165	Applied Statistics II
Sociology	034:216	Linear Models in Sociological Research	Statistics	22S:152	Applied Linear Regression
Sociology	034:218	Advanced Statistical Modeling of Data	Statistics	22S:220	Analysis of Categorical Data
Bio-statistics	171:264	Longitudinal Data Analysis	Statistics	22S:168	Intermediate Experimental Design
Engineering Core	057:014	Engineering Economy	Accounting	06A:001	Introduction to Financial Accounting

EXHIBIT 2
IOWA STATE UNIVERSITY OVERLAPPING COURSES

BASE COURSE		POTENTIAL OVERLAPS		
Course #	**Course Title**	**Department**	**Course #**	**Course Name**
A E 503.	Controls for Agricultural Systems.	Mathematics	MATH 577	Modern Control Systems I
		Mathematics	MATH 578	Modern Control Systems II
AgEd 620.	Research Procedures in Agricultural Education	Animal Ecology	A Ecl 580.	Research Methods in Ecology
Agron 513.	Quantitative Methods for Agronomy	Statistics	Stat 500	Statistical Methods
An S 440.	Computer Applications	Computer Science	Com S 103	Computer Applications
AST 115.	Technology Problems with Computational Laboratory	Civil Engineering	C E 204	Engineering Problems with Computational Laboratory
Chem 155.	Foundations of Chemistry for Engineers	Chemistry	Chem 163	General Chemistry
		Chemistry	Chem 165	Foundations of Chemistry for Engineers
		Chemistry	Chem 167	General Chemistry for Engineering Students
		Chemistry	Chem 177	General Chemistry
Com S 330	General Chemistry for Engineering Students	Mathematics	Math 304	Introductory Combinatorics
E E 322	Contractor Organization and Management of Construction	Statistics	Stat 341	Introduction to the Theory of Probability and Statistics
		Statistics	Stat 330	Probability and Statistics for Computer Science
		Statistics	Stat 322	Probabilistic Methods for Electrical Engineers
		Statistics	Stat 231	Probability and Statistical Inference for Engineers
Engl 487	History of the English Language (Same as Ling 420.)	English	Engl 302	Business Communication
		English	Engl 314	Technical Communication
		English	Engl 507	Writing and Analyzing Professional Documents
Engl 509	Technology in Business, Technical, and Professional Communication	Food Science and Human Nutrition	FS HN 695	Grant Proposal Writing
HD FS 269	American Environmental History (Same as Hist 472.)	Sociology	Soc 302	Advanced Research Methods
		Sociology	Soc 202	Introduction to Research Methods
		Psychology	Psych 302	Research Methods in Psychology
		Statistics	Stat 101	Principles of Statistics
		Statistics	Stat 104	Introduction to Statistics
		Statistics	Stat 401	Statistical Methods of For Research Workers
		Statistics	Stat 404	Statistics for the Social Sciences
Ia LL 401I	Engineering Economic Analysis	Statistics	Stat 401	Statistical Methods for Research Workers
JI MC 502	Statistical Methods for Field Biologists (Same as Stat 401I)	Marketing	Mkt 444	Fundamentals of Marketing Research
		Math	Math 160	Survey of Calculus
Math 151	Calculus for Business and Social Sciences	Math	Math 165	Calculus I
		Math	Math 181	Calculus and Differential Equations for the Life Sciences
		Math	Math 182	Calculus and Differential Equations for the Life Sciences
		Math	Math 365	Complex Variables with Applications
Math 395	Mathematics for Elementary Education II	Math	Math 385	Introduction to Partial Differential Equations
		Journalism	JI MC 502	Communication Research Methods
Mkt 444	History of Mathematics	Sociology	Soc 302	Advanced Research Methods

EXHIBIT 2 (CONTINUED)
IOWA STATE UNIVERSITY OVERLAPPING COURSES

BASE COURSE		POTENTIAL OVERLAPS		
Course #	**Course Title**	**Department**	**Course #**	**Course Name**
Pol S 301.	Introduction to Empirical Political Research	Sociology	Soc 202	Introduction to Research Methods
		Psychology	Psych 302	Research Methods in Psychology
		Statistics	Stat 101	Principles of Statistics
		Statistics	Stat 104	Introduction to Statistics
		Statistics	Stat 404	Statistics for the Social Sciences
Psych 507.	Applications of Multivariate Methods in Psychology	Statistics	Stat 501	Multivariate Statistical Methods
		Statistics	Stat 401	Statistical Methods of For Research Workers
ResEv 552.	Basic Educational Statistics	Statistics	Stat 404	Statistics for the Social Sciences
		Statistics	Stat 415	Advanced Statistical methods for Research Workers
		Statistics	Stat 447	Statistical Theory for Research Workers
		Statistics	Stat 401	Statistical Methods of For Research Workers
ResEv 553.	Intermediate Educational Statistics	Statistics	Stat 404	Statistics for the Social Sciences
		Statistics	Stat 415	Advanced Statistical methods for Research Workers
		Statistics	Stat 447	Statistical Theory for Research Workers
		Psychology	Psych 302	Research Methods in Psychology
Soc 202.	Introduction to Research Methods	Statistics	Stat 101	Principles of Statistics
		Statistics	Stat 104	Introduction to Statistics
		Statistics	Stat 227	Introduction to Business Statistics
Stat 201.	Applied Regression Analysis for Business	Statistics	Stat 104	Introduction to Statistics
		Statistics	Stat 105	Introduction to Statistics for Engineers
		Statistics	Stat 104	Introduction to Statistics
Stat 227.	Introduction to Business Statistics	Statistics	Stat 105	Introduction to Statistics for Engineers
		Statistics	Stat 201.	Applied Regression Analysis for Business
		Statistics	Stat 322	Probabilistic Methods for Electrical Engineers
Stat 231.	Probability and Statistical Inference for Engineers	Statistics	Stat 330	Probability and Statistics for Computer Science
		Statistics	Stat 341	Introduction to the Theory of Probability and Statistics
		Statistics	Stat 342	Introduction to the Theory of Probability and Statistics

EXHIBIT 3
UNIVERSITY OF NORTHERN IOWA OVERLAPPING COURSES

BASE COURSE		POTENTIAL OVERLAPPING COURSES		
Course #	**Course Title**	**Department**	**Course #**	**Course Name**
150:075	Microcomputer Applications for Business	Computer Science	810:021	Computing Skills and Concepts
		Computer Science	810:022	Microcomputer Applications and Systems Integration
150:113	Business Communications I	English Language and Literature	620:015	Exposition and Report Writing
		English Language and Literature	620:106	Technical Writing
150:274	Statistical and Quantitative Analysis	Management	150:265	Managerial Statistics
		Mathematics	800:172(g)	Statistical Methods
		Mathematics	800:173	Probability and Statistics
		Mathematics	800:174(g)	Introduction to Mathematical Statistics
		Mathematics	800:175(g)	Regression Analysis
250:281	Statistics and Measurement	Measurement and Research	190:307	Educational Data Analysis and Interpretation
		Measurement and Research	250:301	Advanced Experimental Research in Education
		Measurement and Research	250:300	Descriptive Educational Research
		Measurement and Research	250:205	Educational Research
		Mathematics	800:172(g)	Statistical Methods
		Mathematics	800:174(g)	Introduction to Mathematical Statistics
		Mathematics	800:175(g)	Regression Analysis
260:134	History of Education	Education	190:301	Context of Contemporary Education
330:294	Technological Evolution and Innovation	Industrial Technology	330:065	The World of Technology
400:049	Psychological Statistics	Mathematics	800:072	Introduction to Statistical Methods
		Mathematics	800:172(g)	Statistical Methods
400:142(G)	Computer Programming for Psychological Applications	Mathematics	800:172(g)	Statistical Methods
450:185	Social Work Research	Sociology	980:108	Research Methods in Social Relations
48J:176(G)	Magazine Article Writing	English Language and Literature	620:177	Project Management
800:023	Mathematics In Decision Making	Mathematics	800:043	Analysis for Business Students
		Mathematics	800:046	Elementary Analysis
820:200	History and Philosophy of Science	Philosophy	650:119	Philosophy of Science
890:241	Statistical Methods for Field Biologists	Mathematics	800:196(g)	Applied Multivariate Statistical Analysis
		Mathematics	800:172(g)	
920:070	Business Statistics	Mathematics	800:072	Introduction to Statistical Methods
		Mathematics	800:172(g)	Statistical Methods
920:168(G)	Mathematical Economics	Mathematics	800:048	Condensed Calculus
		Mathematics	800:050	Matrices with Applications
		Mathematics	800:043	Analysis for Business Students
940:111	Introduction to Quantitative Methods in Political Science	Mathematics	800:072	Introduction to Statistical Methods
		Mathematics	800:172(g)	Statistical Methods
960:102(G)	History of Technology in America	Industrial Technology	330:294	Technological Evolution and Innovation
980:108	Research Methods in Social Relations	Social Work Research	450:185	Social Work Research
		Sociology	980:165(g)	Survey Research Methods

3.0 COURSE SIZES AND SCHEDULING

Related to the issue of duplicative courses and to issues of time to degree and summer school, which are discussed in other sections of this report, are the twin issues of course sizes and scheduling. One of the most important areas to be monitored in any performance review is the quality of classroom instruction. Key elements in the quality of classroom instruction or the instructional environment are class size, which is related obviously to the size of available classrooms, and the availability of classes, or class/course scheduling.

The Regents' universities use many sizes of classes, ranging from large lecture sections to small seminars. Some classes such as music instruction require one-on-one classes. It is very difficult to compare class sizes meaningfully when there are differences in pedagogy and in the availability of different size classrooms.

To arrive at meaningful class size figures that are comparable at the Regent universities, the universities and board staff determined that analysis would be based on three levels of class and two measures of central tendency. Class size reported is for an "organized lecture-type class" at three "levels": the freshman or sophomore level (i.e., lower division); the junior or senior level (i.e., upper division); and the undergraduate level (i.e., baccalaureate education). The undergraduate level sums the lower and upper division.

The "average" number reported represents both large and small classes and may be skewed by several very large (over 100 students) classes. Because of this, the institutions agreed also to provide the median number of students per class. The median number represents the middle figure of the class size, with half of the students above and half below the figure.

The Regents have been using this measure as a Performance Indicator related to Action Step 1.1.1.2, "ensure class size is appropriate for subject matter being taught," of the Board of Regents Strategic Plan. Targets were set for average class size for each of the three universities and are shown in Exhibit 4 along with actual class sizes for lower division, upper division, and undergraduate education for the academic years 1994 – 95 through 2000 – 01.

All three universities were making progress toward the target average and median class sizes or had achieved the targets until the 1999-2000 academic year. At that time, the state budget situation changed, and the universities were required to make budget reductions. As a result, the institutions have regressed rather than progressed toward the goals of smaller undergraduate class size.

The Iowa institutions are not unique in this arena. The majority of other states have had budget difficulties in the last two years, and this has been reflected in college and university budgets. Rather than increase class size, institutions in South Carolina, Texas, Georgia, and North Carolina have used several strategies to stay within budgetary limitations. Some of these strategies are:

- use of additional teaching assistants;
- use of part-time, clinical, or adjunct faculty;
- capping enrollment;
- offering additional classes during semester breaks and during summer school;
- requiring faculty to teach one additional class per semester;
- cutting budgets on other areas to free-up funds for class size reduction;
- eliminating the offering of certain specialized classes;
- modifying the pedagogy to teach classes in other venues, including web-based courses;
- eliminating low enrollment classes and using faculty "freed-up" to teach additional sections of high demand classes; and
- "rolling back" the class size target to the level pre-budget stringency.

EXHIBIT 4
AVERAGE UNDERGRADUATE CLASS SIZE
ACADEMIC YEAR 1994-95 TO 2000-01 AND PERFORMANCE TARGETS

	UNIVERSITY OF IOWA			IOWA STATE UNIVERSITY			UNIVERSITY OF NORTHERN IOWA		
	ACADEMIC								
	Year	Average	Median	Year	Average	Median	Year	Average	Median
Lower Division	94-95	NC	NC	94-95	37.3	24.0	94-95	33.7	26.0
	95-96	37.2	21.0	95-96	36.5	23.0	95-96	34.9	25.0
	96-97	36.5	21.	96-97	36.5	24.0	96-97	35.5	26.0
	97-98	36.5	21.	97-98	37.0	24.0	97-98	33.2	25.0
	98-99	37.1	21.0	98-99	36.9	24.0	98-99	32.9	25.0
	99-00	38.3	22.0	99-00	39.5	24.0	99-00	34.6	25.0
	00-01	40.3	22.0	00-01	40.1	24.0	00-01	35.8	26.0
Target		37.0	21.0		37.0	24.0		33.0	27.0
Upper Division	94-95	NC	NC	94-95	24.7	19.0	94-95	23.9	23.0
	95-96	28.0	19.0	95-96	24.7	20.0	95-96	22.8	21.0
	96-97	31.0	20.0	96-97	23.4	18.0	96-97	23.1	21.0
	97-98	27.3	18.0	97-98	24.2	19.0	97-98	23.3	22.0
	98-99	27.6	20.0	98-99	24.3	18.0	98-99	24.2	24.0
	99-00	26.1	18.0	99-00	24.5	18.0	99-00	22.8	23.0
	00-01	26.5	18.0	00-01	25.7	19.0	00-01	25.6	25.0
Target		28.0	20.0		24.0	TBP		23.0	25.0
Combined Lower and Upper Divisions	94-95	NC	NC	94-95	32.6	23.0	94-95	30.2	25.0
	95-96	32.5	20.0	95-96	32.7	22.0	95-96	30.1	24.0
	96-97	32.9	20.0	96-97	31.8	22.0	96-97	29.5	24.0
	97-98	32.1	21.0	97-98	32.2	22.0	97-98	28.9	24.0
	98-99	32.4	21.0	98-99	32.0	22.0	98-99	29.2	24.0
	99-00	32.3	20.0	99-00	32.7	22.0	99-00	28.9	25.0
	00-01	32.7	21.0	00-01	33.8	23.0	00-01	32.2	26.0
Target		32.0	21.0		32.0	22.0		28.0	24.0

Source*: Data provided by the universities through the Board office.*

RECOMMENDATION 2:

The Regents' universities should investigate alternative strategies to reduce undergraduate class sizes to achieve the Board performance indicator targets.

Class scheduling also is an issue that is related to the quality of instruction, to summer school, and to time to degree. If classes are not scheduled effectively so that students may take required courses when needed in the sequence for graduation within four years, additional semesters are added to the students' time to graduation. And if required classes are not available during the summer, often an additional year (two semesters) is added to the time to graduate. Students who cannot get into classes because sufficient required classes are not available or because the classes are not

scheduled during the summer, in the evening, or at other "non-traditional" times may have difficulty graduating within four or even six years.

During MGT's campus visits, students at all three of the universities discussed the availability of classes, or the lack thereof. Students, and the universities, indicated that generally classes are not scheduled early in the morning, on Friday afternoons, on weekends, or in the evenings. APPA, the association of higher education facilities officers, suggests that for optimal building usage and maintenance, classrooms should have 60 percent occupancy rate. This means that 60 percent of the seats in classrooms should be occupied during a 40-hour week, typically 9 a.m. to 5 p.m. Monday through Friday. Some states have set higher standards for room usage; for example, the Arizona Board of Regents sets a 75 percent standard for room usage so that the university system's physical resources may be used efficiently and effectively.

Exhibit 5 displays the average utilization of a sample of classrooms at each of the three universities during the Fall 2000 or Fall 2001 semester, typically the semester when more students are enrolled. During this semester Iowa State University used 48 typical classrooms an average of 26.5 hours per week, or 66.3 percent of a 40-hour week. Although the average classroom had the capacity for 59 students, only 43 students on average occupied the room, a 73.3 percent capacity occupation rate. Of the average 2,347 seat hours available during a 40 hour week, only 1,283 were used, a 54.7 percent occupancy rate, below the APPA standard.

Similar numbers for the University of Iowa for 56 representative classroom were that classrooms were used 28.6 hours per week, or 71.5 percent of a 40-hour week. Although the average classroom had the capacity for 67 students, only 37 students on average occupied the room, a 57.3 percent capacity occupation rate. Of the average 2,666 seat hours available during a 40-hour week, only 995 were used, a 37.3 percent occupancy rate, well below the APPA standard.

During this semester University of Northern Iowa used 27 typical classrooms an average of 29.6 hours per week, or 74 percent of a 40-hour week. Although the average classroom had the capacity for 74 students, only 35 students on average occupied the room, a 55 percent capacity occupation rate. Of the average 2,970 seat hours available during a 40 hour week, only 1,051 were used, a 35.4 percent occupancy rate, below the APPA standard.

EXHIBIT 5
CLASSROOM UTILIZATION FOR A SAMPLE OF CLASSROOMS
IOWA UNIVERSITIES, FALL 2000*

University	# of Rooms	Average Capacity	Hours Used/ Week	% Hours Used	Average Section Size	Average % Capacity	Seat Hours Available	Seat Hours Used	% Seat Hours Used
ISU	48	59	26.5	66.3%	43	73.3%	2,347	1,283	54.7%
UI	56	67	28.6	71.5%	37	57.3%	2,666	995	37.3%
UNI	27	74	29.6	74.0%	35	55.0%	2,970	1,051	35.4%

* UNI provided data for Fall 2001.
Source*: Data furnished by the universities.*

During the current budget situation, the universities have been increasing class sizes, as shown in Exhibit 4; however, the data do not indicate that rooms are being used to the level of the capacity standards set by APPA. Additional information provided by the universities indicated that classrooms are used minimally during non-popular hours on Fridays and in the evenings, and during non-traditional times such as early mornings and weekends. Providing classes during these hours, especially courses that are part of the general education requirements, or are required for graduation in certain disciplines, likely would reduce the number of credit hours at graduation, and the time to graduate.

RECOMMENDATION 3:

Each university should schedule more classes during non-traditional and non-popular hours (i.e., weekends, Fridays, evenings, and early mornings) to make more efficient use of classroom resources.

In making this recommendation, it is understood that when budgets are constrained, the tendency will be to reduce the number of sections and increase the size of the classes.

The number of large classrooms limits increases in class size, of course. Additionally, increasing the average size of classes moves universities away from rather than toward targets set by the Regents.

At the University of Iowa, an additional problem with effective and efficient utilization of available classroom space is that not all classrooms are centrally assigned. Some colleges have their "own" classroom space, and there is not enough cross sharing to accommodate larger classrooms or different configurations within a classroom. In addition, a number of larger classrooms are located some distance from several colleges who do not ask to have faculty and classes assigned to these larger spaces. The combination of these factors results in inefficient use of class space.

RECOMMENDATION 4:

The University of Iowa should re-assess its classroom assignment policies to make more efficient use of available class facilities.

4. ARTICULATION OF COMMUNITY COLLEGE STUDENTS

The Iowa community colleges and the three Regents' universities have a history of voluntary articulation that dates to the 1960s. Each of the three universities has individual articulation and/or transfer agreements with the Iowa community colleges. In addition, there is an overarching articulation agreement between the Regent universities and the Iowa community colleges.

In 1972, the Liaison Advisory Committee on Transfer Students (LACTS) was established under the direction of the Regents Committee on Educational Relations (RCER) and the Iowa Community College Presidents' Association (ICCPA). In 1981 LACTS negotiated articulation agreements such that all students transferring with an Associate of Arts degree from an Iowa Community College to a Regent University who meet certain curricular requirements are deemed to have met all freshman and sophomore level general education requirements for the colleges of liberal arts (and

certain other colleges) within the Regents universities. These students are enrolled at the junior level.

However, the Associate of Arts articulation agreements do not extend to colleges other than the Colleges of Liberal Arts, Education and Business Administration at the University of Iowa and the College of Liberal Arts and Sciences at Iowa State University. All undergraduate colleges at the University of Northern Iowa are included in the Associate of Arts articulation agreement.

Up to 16 vocational/technical credit hours earned at an Iowa community college are accepted toward a degree at an Iowa Regents' university, provided that the hours are accepted toward an Associate of Arts or Associate of Science degree. These credit hours do not count in the grade point average (GPA) at the Regents' university.

A special articulation agreement exists for the Vocational/Technical Program in Electronics/Electronics-based Technology. Students who receive the Associate of Applied Science degree receive 32 semester hours of ungraded transfer credit from a Regents' university. The credit reduces the additional credit hours required for a baccalaureate degree if course equivalencies can be established or as elective credit. These credit hours are in addition to the transferable arts and science credits earned at the community college, and result in a total of 65 semester credit hours applied toward a bachelor's degree.

In addition to the associate of arts general articulation agreement, and the vocational/technical agreement, individual articulation agreements and/or transfer agreements exist between individual community colleges and each of the Regents' universities. For example, Des Moines Area Community College has articulation and/or transfer agreements in at least 15 subject areas (e.g., accounting, elementary education, nursing) with the University of Iowa; in 14 subject areas with Iowa State University; and 5

additional areas with the University of Northern Iowa. A list of all agreements (several hundred in total) is available from the Board of Regents office.

Other states that have Associate of Arts or general education articulation agreements extend those agreements to all undergraduate colleges at state universities. For example, Florida and Arkansas both have coordinated articulation programs that extend to all the undergraduate colleges or schools within the four-year public universities. In Iowa not all undergraduate colleges at the Regents' universities are included in the Associate of Arts articulation agreement, even though there may be specific articulation or transfer agreements for the other colleges.

RECOMMENDATION 5:

LACTS should be assigned the responsibility of developing Associate of Arts articulation and/or transfer agreements so that *all* students transferring with an Associate of Arts degree from an Iowa Community College to *any* undergraduate college at a Regent University who meet certain curricular requirements are deemed to have met all freshman and sophomore level general education requirements.

Each of the three universities provides transfer students or students seeking to transfer from an Iowa community college with a significant amount of assistance in the transfer process. Iowa State University has an "Enrollment Checklist" for transfer students that lists all the resources and steps for transferring, as well as a "Course Equivalency Guide" for courses at each of the community colleges. The University of Iowa has "Transfer Days" that are full-day campus visits for prospective transfer students. The University of Northern Iowa has similar programs to assist students wanting to transfer, and both UNI and ISU have web-based guides to assist students in determining course equivalencies. UI expects that its course equivalency lists will soon be available on the web.

Despite all these resources and articulation and/or transfer agreements between the Regents' universities and each Iowa public community college, some individuals

have the perception that articulation agreements, especially for technical courses, do not exist between the Regents' universities and the community colleges. To make the transfer process more "seamless" and more visible to community college students, each Regents' university has been working with five of the fifteen community college districts to develop electronic transcripts. The Iowa Department of Education is funding a portion of this effort which should result in easier transfer of community college credits.

Contributing to the false perception of a lack of articulation agreements is the lack of a statewide resource on programs and courses that could assist students in the transfer of courses and programs between the community colleges and the Regents' universities. Unlike many other states including Maryland, Arizona, Texas, Florida, North Carolina, and Arkansas, Iowa does not have a central, easily-accessed "one-stop shop" where prospective transfer students may obtain information on course and/or program transferability. Maryland, for example, has web-based access to transfer of programs and courses across Maryland colleges and universities that includes on-line determination of the transferability of any course or program, as well as information on the general education curriculum. A prospective student can log onto http://www.mhec.state.md.us/AcadAff/stguide.htm or simply search the web to obtain step by step instructions on how to transfer from a community college to a four-year institution. Similar web sites are available in Texas (http://www.thecb.state.tx.us), Arizona (http://az.transfer.org) and other states. However, Iowa does not have a central site where prospective students may obtain information.

A recent report from the National Center for Public Policy and Higher Education by Jane V. Wellman, "Unfinished Agenda: Transfer accountability should be a top state policy priority," emphasizes the importance of a statewide focus rather than an institutional focus on transferability and articulation. Wellman stresses the critical nature of 2+2 or 2/4 transfer because the bachelor's degree is now replacing the high school

diploma as the entry point into the workforce, and "transfer effectiveness will be the key to continued national progress in educational equity for baccalaureate degree holders.."[1] Wellman further notes that improving performance on transfer programs is essential for improved degree productivity and cost effectiveness, as well as state economic development.

The Regents' universities each have recognized the importance of easy access to information for students seeking to transfer from an Iowa community college, and have made major steps to providing information on web sites such as Iowa Learns, and a taxonomy of available degree programs. The universities are to be commended for beginning this project. The Regents' Office has begun to facilitate through the 2 + 2 Council easy access to information by developing a "one stop shop" for any Iowa community college student seeking to transfer to any of the three universities, like other states have provided. Because students currently are earning college credits in a variety of ways, it is essential that Regents' universities become more "accessible" through a coordinated web site that explains the statewide provisions for transfer and articulation.

RECOMMENDATION 6:

The Board of Regents Office should continue to develop, with the assistance of LACTS, the 2 + 2 Council, and other appropriate groups such as the Regent Committee on Educational Relations (RCER), a coordinated transfer articulation system that is available through an easily-accessed and interactive web site.

It is critical that the articulation efforts of Iowa continue to be coordinated statewide and information be available easily for students. A web site should be developed that will provide students with all the information needed to determine which courses at any community college in Iowa will transfer to any of the Regents' universities. The information available should include the steps to successfully transferring credit written

[1] Wellman, Jane V. 2002. "Unfinished Agenda." *National Crosstalk.* Washington, D.C. National Center for Public Policy

for a person unfamiliar with higher education jargon, in a user-friendly format that is easily accessible. An electronic tool that would take the student through all steps that are necessary to transfer credits would improve the Iowa public perception about transferring community college credit. Significant assistance in the development of such a system may be obtained through the State Higher Education Executive Officers (SHEEO) offices in other states that already have articulation systems in place.

5. TOTAL CREDIT HOURS TO GRADUATE

One of the important indicators of the "productivity" or efficiency of a college or university is the "time to degree," or how long it takes an undergraduate student to graduate. This measure examines both the number of undergraduate credit hours students have earned at graduation with a bachelor's degree, and the number of years that the student was in college before awarding of the degree.

The Iowa Board of Regents has included this measure in its annual review of the universities, and is to be commended for this practice. The University of Iowa also is to be commended for the successful implementation of a four-year graduation plan for students who opt to participate in the program. Since the program was started six years ago, participation in the program has increased from approximately 50 percent to 75 percent, and the average length of time to graduate has decreased from 4.84 years for students who began college in 1988 to 4.50 years for students who began college in 1995.

The number of credit hours and length of time to graduation are important indicators of both class availability and degree requirements. If courses are not available when a student needs the course in his/her curriculum and are required for graduation, the student is more likely to have more hours at graduation because students "fill in" their class schedules with electives. This issue also is related to the

and Higher Education. Summer.

issues of class scheduling and summer school; if classes are not scheduled effectively so that students may take required courses when needed in the sequence for graduation within four years, additional semesters are added to the students' time to graduation. And if required classes are not available during the summer, often an additional year (two semesters) is added to the time to graduate.

For those students who graduated in 2001, the average number of credit hours to graduate was 139.7 at ISU, 133.8 at UI, and 138.6 at UNI (Exhibit 6). For those students who began their college experience in the same university from which they graduated (called "university originator"), the average number of credit hours to graduate was 138.3 at ISU, 132.3 at UI, and 137.7 at UNI. For community college transfer students, the averages were 137.0 at ISU, 139.6 at UI, and 139.7 at UNI.

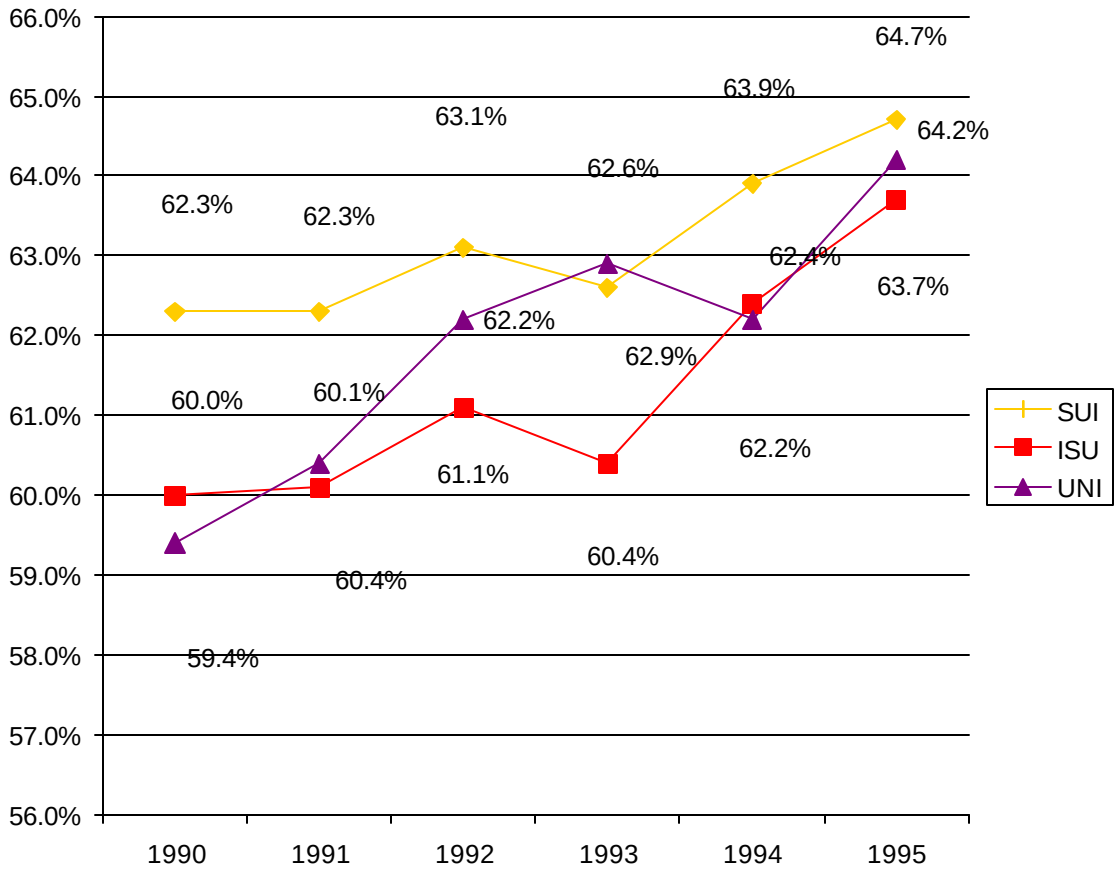
The average number of hours in a baccalaureate degree usually is 124. Spring 2001 graduates of all of the Regents' universities had significantly more credit hours at graduation than would be expected. At ISU, spring graduates took an average 15.7 more hours before earning the baccalaureate, or a full 15-hour semester. UI graduates took 9.8 more hours or about three courses, while UNI graduates earned an additional 14.6 hours. Only at UI was the number of hours earned at graduation significantly different for university originators than for community college transfers – 7.3 hours, equivalent to two classes. This difference may be due to UI's four-year graduation plan, for which community college transfers would not be eligible.

EXHIBIT 6
IOWA UNIVERSITIES MEAN STUDENT CREDIT HOURS AT GRADUATION
RANDOM SAMPLE OF SPRING 2001 GRADUATES BY ORIGIN OF STUDENT

	ISU	UI	UNI
UNIVERSITY ORIGINATOR			
UNIVERSITY CREDIT HOURS	132.6	116.6	129.9
TRANSFER HOURS	5.7	13.0	7.8
TOTAL HOURS	138.3	132.3	137.7
SAMPLE SIZE	283	1538	263
COMMUNITY COLLEGE TRANSFER			
UNIVERSITY CREDIT HOURS	83.5	74.9	88.7
TRANSFER HOURS	53.5	61.6	51.1
TOTAL HOURS	137.0	139.6	139.7
SAMPLE SIZE	75	277	35
OTHER TRANSFER			
UNIVERSITY CREDIT HOURS	90.8	70.9	96.2
TRANSFER HOURS	59.2	62.2	50.0
TOTAL HOURS	150.1	135.9	146.2
SAMPLE SIZE	56	339	24
ALL STUDENTS			
UNIVERSITY CREDIT HOURS	118.1	104.0	122.9
TRANSFER HOURS	21.6	28.8	15.7
TOTAL HOURS	139.7	133.8	138.6
SAMPLE SIZE	414	2154	322

Graduation rates also are an important indicator of the productivity and efficiency of a university. Exhibit 7 displays six-year graduation rates for the three universities for the entering classes of 1990 to 1995. Six-year graduation rates for the most recent reporting year, the entering class of 1995, increased at UI from 62.3 percent for the 1990 entering class to 64.7 percent for the 1995 entering class; at ISU, the rate increased from 60.0 percent to 63.7 percent; and at UNI, the rate increased from 59.4 percent to 64.2 percent. Each of the universities is to be commended for this increase in six-year graduation rates.

EXHIBIT 7
SIX-YEAR GRADUATION RATES
FOR THE ENTERING CLASSES OF 1990 - 1995



Source: *Board Office, from data provided by the universities.*

A third measure of efficiency or productivity is average years to graduation. Exhibit 8 displays the average years to graduation for the universities for the cohorts from 1988 through 1995, and Exhibit 9 displays information on years to graduation for a random sample of Spring 2001 bachelor's degree graduates. At each university the majority of students graduated within four years, and the average years to graduation has declined.

EXHIBIT 8
AVERAGE YEARS TO GRADUATION, IOWA UNIVERSITIES
COHORTS BEGINNING COLLEGE IN 1988 – 1995

COHORT YEAR	UI	ISU	UNI
1988	4.84	4.77	N/P
1989	4.84	4.79	N/P
1990	4.77	4.82	N/P
1991	4.78	4.78	N/P
1992	4.72	4.75	N/P
1993	4.62	4.74	N/P
1994	4.58	4.72	N/P
1995	4.50	4.71	N/P

Source*: Data provided by the universities.*

EXHIBIT 9
RANDOM SAMPLE OF SPRING 2001 BACHELOR'S DEGREE RECIPIENTS
YEARS TO DEGREE, BY ORIGIN OF STUDENT

	ISU		UI		UNI	
	#	%	#	%	#	%
UNIVERSITY NATIVE						
FOUR OR FEWER YEARS	*160*	*56.5%*	*1079*	*70.2%*	*151*	*57.4%*
FIVE YEARS	*97*	*34.3%*	*356*	*23.1%*	*102*	*38.8%*
SIX YEARS	*17*	*6.0%*	*39*	*2.5%*	*3*	*1.1%*
SEVEN OR MORE YEARS	*9*	*3.2%*	*64*	*4.2%*	*7*	*2.7%*
TOTAL	*283*	*100.0%*	*1538*	*100.0%*	*263*	*100.0%*
COMMUNITY COLLEGE TRANSFER						
FOUR OR FEWER YEARS	*67*	*89.3%*	*249*	*89.9%*	*27*	*77.1%*
FIVE YEARS	*8*	*10.7%*	*9*	*3.2%*	*6*	*17.1%*
SIX YEARS	*0*	*0.0%*	*6*	*2.2%*	*1*	*2.9%*
SEVEN OR MORE YEARS	*0*	*0.0%*	*13*	*4.7%*	*1*	*2.9%*
TOTAL	*75*	*100.0%*	*277*	*100.0%*	*35*	*100.0%*
OTHER TRANSFER						
FOUR OR FEWER YEARS	*47*	*83.9%*	*293*	*86.4%*	*19*	*79.2%*
FIVE YEARS	*4*	*7.1%*	*26*	*7.7%*	*3*	*12.5%*
SIX YEARS	*2*	*3.6%*	*9*	*2.7%*	*0*	*0.0%*
SEVEN OR MORE YEARS	*3*	*5.4%*	*11*	*3.2%*	*2*	*8.3%*
TOTAL	*56*	*100.0%*	*339*	*100.0%*	*24*	*100.0%*
ALL STUDENTS						
FOUR OR FEWER YEARS	*274*	*66.2%*	*1621*	*75.3%*	*197*	*61.2%*
FIVE YEARS	*109*	*26.3%*	*391*	*18.2%*	*111*	*34.5%*
SIX YEARS	*19*	*4.6%*	*54*	*2.5%*	*4*	*1.2%*
SEVEN OR MORE YEARS	*12*	*2.9%*	*88*	*4.1%*	*10*	*3.1%*
TOTAL	*414*	*100.0%*	*2154*	*100.0%*	*322*	*100.0%*

Source*: Data provided by the universities.*

During MGT's conversations on campus with students, a majority of the students with whom we talked at UNI related that they were taking more courses to graduate than was required by their programs, and that graduation may require additional semesters. Additional data on the average number of earned hours by degree shown in Exhibit 10 corroborate this finding.

EXHIBIT 10
AVERAGE NUMBER OF HOURS EARNED BY DEGREE
SPRING 2000 AND 2001 GRADUATES, UNIVERSITY OF NORTHERN IOWA

DEGREE	MINIMUM HOURS TO GRADUATE	SPRING 2000	SPRING 2001
Bachelor of Arts - Teaching	130	152.7	151.9
Bachelor of Arts	124	132.4	133.1
Bachelor of Music	130	166.7	158.6
Bachelor of Fine Arts	130	152.5	148.0
Bachelor of Liberal Studies	124	146.3	138.2
Bachelor of Science	130	147.2	148.3

The Bachelor of Arts degree requires 124 credits for graduation, but UNI graduates in Spring 2000 earned 132.4 hours, and in Spring 2001 earned 133.1 hours, 8 – 9 hours more than required. The Bachelor of Liberal Studies degree also requires 124 hours for graduation, but UNI Spring 2000 graduates earned an average 146.3 hours, and Spring 2001 graduates 138.2. Graduates earning other baccalaureate degrees requiring 130 hours actually earned from an average of 147.2 hours to 166.7 hours.

Students reported that the excess hours resulted from a combination of several factors: limited availability of classes in the sequence required by the degree program and excessive general education requirements. The issue of limited availability of classes was discussed in the section on class size and scheduling. The issue of excessive general education requirements was examined in detail.

University of Northern Iowa has general education requirements that total 47 hours, comprised of the following:

Category 1:	Civilizations and Cultures	11 Hours
Category 2:	Fine Arts, Literature, Philosophy and Religion	6 Hours
Category 3:	Natural Science and Technology	9 Hours
Category 4:	Social Science	9 Hours
Category 5:	Communication Essentials	9 Hours
Category 6:	Personal Wellness	3 Hours
Total Program Minimum		**47 Hours**

The other two Regents universities have general education requirements of 40 hours, and similar institutions in other states have general education requirements that vary from 30 to 40 hours. UNI students that MGT interviewed indicated that they had great difficulty getting into the general education required classes, and often had to wait an academic year before completing a course requirement. This had the impact of causing the students to postpone graduation until all course requirements were completed.

RECOMMENDATION 7:

The University of Northern Iowa should evaluate its general education requirements and reduce the number of required hours to a level more in line with the other Iowa universities and similar universities in other states.

The University of Iowa has had great success with its four-year graduation plan, and has reduced the average time to graduation for its students. Both Iowa State University and the University of Northern Iowa have four-year graduation plans, but the agreements are not as widely used as at UI. When MGT asked students at ISU and UNI why they were not involved in the four-year graduation plans, the students indicated that the plans were not well-explained, and not well-advertised. Students did not know about the plans when they registered as freshmen, and hence could not participate. UI does

inform all incoming freshman of the four-year graduation plan, and advertises it very well. Advisors at UI are trained to give each new student full information about the plan and its benefits.

RECOMMENDATION 8:

Iowa State University and the University of Northern Iowa should seek and follow the advice of the University of Iowa to improve the marketability of their four-year graduation plans.

6. SUMMER ENROLLMENTS

The three Regents' universities have substantial summer school programs that enroll a total of over 25,000 headcount students, approximately one-third of the number enrolled during the regular academic year. The Iowa universities do not offer during the summer the full range of courses offered during the academic year because of resource constraints – both financial resources and faculty resources. Budgets for summer school are fixed and set separately from budgeting during the regular academic year. Typically, a faculty member is paid 1/9 of their annual academic year salary to teach a three-credit course.

The central issue related to summer enrollments is "under" enrollment and under utilization of facilities, leading to higher costs to provide a credit hour of instruction. In addition, if courses required for graduation are not offered during the summer, then attending summer school will not lead to reduction in the time to degree.

Despite the number of students who are enrolled in the summer, the number of credit hours earned per student is relatively low, averaging 5 to 6 credit hours at the Iowa universities. Students at all three universities reported that they did not enroll at all or did not take a full load of summer courses because either classes needed for their programs were not offered or sufficient seats were not available. Students additionally reported that lack of summer class opportunities resulted in up to an additional year to

graduate. Of course, some students take fewer hours during the summer because of employment.

Examination of summer schedules of classes at the three universities revealed that a reduced number of sections were offered in some of the general education courses required for graduation compared to the academic year. However, that pattern is to be expected if demand is not as great as during the academic year, but there may be a chicken-and-egg problem.

Data on excess demand for courses, or wait lists for courses was requested from the universities, but only Iowa State University was able to provide information. Analysis of the wait lists showed that the largest wait lists were for courses that were required for graduation or were a part of the general education requirements. It is likely that summer school enrollments would increase if required general education or specific discipline courses required for graduation were offered. This would result in more efficient use of resources.

RECOMMENDATION 9:

The universities should make greater use of summer school as an integral component of their enrollment management plans.

RECOMMENDATION 10:

Class offerings during the summer, and in "inter-sessions" should include all courses that are part of the general education graduation requirements.

RECOMMENDATION 11:

To the extent possible within budget constraints, each university department should offer discipline-specific courses required for graduation during summer school and "inter-sessions."

At the University of Northern Iowa, the summer school budget is based upon prior-year summer enrollments. That is, all tuition revenue is placed into a central resource and then allocated to colleges based on prior-summer enrollments. The course offerings for summer school are determined by March 1, and then become "set in stone" so that

no classes are added or subtracted, no matter what the demand is. As a result, there is no incentive for departments to add courses to fill demand. UNI reported that they have much more summer demand for courses in the sciences than can be filled with available faculty, even if resources were available. UNI added a May inter-session to accommodate the demand for summer courses.

Iowa State University also reported that there were no incentives for the colleges to offer summer programs although there was significant unmet demand, as mentioned earlier. The University of Iowa also reported that there was significant unmet demand for summer courses, and that caps on class size were increased or removed to permit more students to get classes. UI also has added a winter inter-session to accommodate student course needs.

Other universities handle the funding of summer school and inter-sessions in a manner that provides incentives for departments to offer courses. The Arizona universities offer summer school and inter-sessions that are self-funding; that is, college or department revenues for summer or inter-session classes must be sufficient to pay all direct costs of the courses offered within the department, plus 10 percent that is allocated for fixed costs. Direct costs are instructor/faculty salaries, any equipment charges, and any supply or other costs. Departments and colleges balance the course offerings to provide a range of required and specialized courses that have enrollments such that total tuition and fee revenues cover all the costs. Any revenues over 110 percent of direct costs are retained by the department/college, and may be used for any legal expenditure during the academic year.

Recommendation 12:

The Regents' universities should evaluate alternative methods of distributing summer school revenues so that colleges/departments have incentives to offer courses and programs that are consistent with each university's strategic plan and goals.

7. ENROLLMENT MANAGEMENT

Enrollment management is critical to the success of colleges and universities across the nation, and the Iowa universities are no exception. During times of budget restrictions and crisis, the issue of funding the budget is tightly linked to managing enrollment. Enrollments must be maintained or changed to meet the enrollment goals of strategic plans while maintaining or increasing revenues from tuition and fees. Enrollment management is a very complex strategic process that seeks to maximize enrollment of students that match goals for diversity of the student body, by class level, and by discipline while maximizing revenues and quality of the institution. Class size and scheduling, articulation with community colleges, time to degree, and summer enrollments all are issues that are linked to the overarching issue of enrollment management. If students cannot get classes because of class size and scheduling issues, if time to degree increases, or community college programs are not articulated, and summer school is not used strategically, then managing enrollment becomes more complex.

Each of the Iowa universities has set enrollment goals as components of their strategic plans. The University of Iowa states as part of its strategic plan that it

> *"has reached a student population of over 28,000 students. The diversity represented within this population is growing, reflecting demographic changes in the state and nation. UI anticipates that the student population will reach 30,000 within the next 5 years. Undergraduate numbers are expected to increase while graduate and professional student numbers will decrease slightly. The resident/nonresident numbers should remain relatively constant, but a significant amount of the growth in student population will occur at off-campus rather than on-campus locations. Expansions and contractions of total number of faculty and staff positions will be driven principally by enrollments and sponsored research funding. "*

Iowa State has as part of its strategic plan the enhancement of student recruitment at the undergraduate and graduate levels to reach enrollment targets, to attract high achieving students, and expanding student financial assistance. The University of Northern Iowa has the objective of increasing the number of American ethnic minority students and international students consistent with the Board of Regents Strategic Plan.

Each of the three institutions seeks to balance the goals of admitting outstanding and diverse freshman, transfer and graduate classes that make efficient use of faculty, staff, information, and physical resources; retain and graduate those students; and provide sufficient revenue to provide outstanding programs and services. In the current

economic climate, the university presidents have been talking publicly about capping enrollments and other budget reduction strategies to maintain quality.

Because of budget constraints, the universities are using enrollment management strategies to control and limit upper division enrollments. UI has enrollment management staff for both undergraduate and graduate programs, who work together on developing strategies. ISU and UNI have committees that have been addressing budget reduction issues at the same time as working on enrollment management.

Although each university reported that they are working in a coordinated fashion to address enrollment management, students had different views, as reported in previous sections of this report. Enrollment management and marketing plans do not appear to be linked so that each university can plan its strategies effectively.

RECOMMENDATION 13:

Each university should develop integrated enrollment management and marketing plans that make effective use of faculty, staff, and physical resources, and which tie specifically to goals in the Board of Regents' and university strategic plans. Such plans should incorporate linkages to budgets as well as to the Board's and institution's strategic plan.

8. REMEDIAL COURSES

Remedial or developmental courses are those offered to students who are under-prepared in a subject to enroll in college level courses successfully. Typically, remedial courses are offered to students who are under-prepared in reading, writing or composition, and mathematics. Some colleges and universities also provide remedial classes to students who are under-prepared in the social, behavioral, or laboratory sciences. For example, the state colleges and universities in Georgia offer developmental courses in biology, computing, history, and other social sciences.

Legislators and other state policy makers in some states have questioned whether the offering of remedial or developmental courses at universities is an effective use of state resources. The contention has been that local school districts and community colleges can provide remedial or developmental courses at a cost less than that at a state university.

Each of the three Regents' universities offers remedial or developmental courses that typically do not earn college credit toward a degree and do not fulfill graduation requirements. Courses are offered in English or composition and in mathematics. Exhibit 11 displays remedial enrollments for the last five academic years for the three universities.

EXHIBIT 11
REMEDIAL/DEVELOPMENTAL ENROLLMENTS
IN MATHEMATICS AND ENGLISH, ACADEMIC YEARS 1998 – 2002

	ACADEMIC YEAR				
	1998	1999	2000	2001	2002
Students:					
English/Writing					
UI	1	1	3	10	3
UNI	14	17	17	24	32
Mathematics					
UI	478	516	626	624	836
ISU	522	431	402	408	357
UNI	74	95	79	61	69
Credit Hours:					
English/Writing					
UI	2	2	6	20	6
UNI	42	51	51	72	96
Mathematics					
UI	1,434	1,548	1,878	1,872	2,508
ISU	2,088	1,724	1,608	1,632	1,428
UNI	0	249	237	180	207

Source*: data provided by the universities.*

At similar institutions in other states, up to 50 percent of the freshman class is enrolled in remedial mathematics programs and up to 25 percent of the freshman class is enrolled in remedial or developmental English/composition courses. The Iowa universities enroll smaller percentages of their entering freshman classes in remedial courses than peers. Because of the fact that the institutions are in line with peers, no recommendation is warranted here.