

THE \$7,376 “IVIES”: Value-Designed Models of Undergraduate Education

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Center for College Affordability and Productivity

The Center for College Affordability and Productivity (CCAP) is a nonprofit research center based in Washington, DC, that is dedicated to research on the issues of rising costs and stagnant efficiency in higher education, with a special emphasis on developing market-based solutions.

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Introduction

Is it possible to get an “Ivy” education for \$7,376 a year? Can a college provide high-quality undergraduate education at a reasonable cost? In this paper, I explore if cost can be reduced and quality improved through the use of new “value-designed” models of undergraduate education. A value-designed model allows you to appeal to customers seeking the greatest value. These are the students—or perhaps more often, their parents—who are looking for a high-quality product at a relatively low price. To be able to charge a relatively low price, a college must have either a large subsidy from public or private sources or low costs. In this paper, I focus on the cost side of providing a high-quality education.

Cost of a Value-Designed College

In my analysis, I first create a model for a hypothetical college I call the College of Entrepreneurial Leadership and Society (CELS). CELS will be designed for traditional undergraduate college students of moderately selective to highly selective academic standing. It will provide a useful education for a productive and balanced life in a challenging yet supportive environment.

CELS will offer a broad curriculum that will provide students with appropriate technical skills for entry-level jobs, potential to be a general manager of a small organization early in their career, an understanding of the “big picture,” and foundational skills and knowledge for life outside of work. CELS will have a large core of required courses, including several interdisciplinary humanities/social sciences courses, as well as a smaller set of entrepreneurial leadership courses. Majors will be offered in behavioral science, business, communication arts, education, engineering science, information technology, letters and civilization (interdisciplinary humanities), public affairs, and science and technology.

For those who do not like the CELS model, other value-designed models can be created. The market for higher education is large, with multiple segments. The first step in creating a model is to define an attractive value proposition for a sufficiently large target market. Who are your potential students, and what combination of benefits—primarily learning—and price is attractive to them? It is crucial to realize that different target markets may be looking for different benefits. Students at No-Frills University may not be interested in the socialization experience, but CELS students will find it extremely important. Ivory Tower College students may see the study of “knot theory” or “hermeneutics to post-colonialism” as vital components of their education, while CELS students will find these topics academic curiosities, at best.

Next, you need to decide what activities you will and will not do in order to provide your value proposition. This requires an understanding of the costs and benefits of various activities. On the one hand, activities that provide a lot of student benefit for little cost should be kept. On the other hand, some activities add a lot of cost without much benefit, and should be eliminated.

The third step in developing a model is to decide how you will provide these activities. By doing activities better, you can increase student benefits or decrease costs associated with that activity.

The second part of my analysis is to determine the operating costs of CELS by creating a detailed pro forma using the build-up method, in which you look at every individual activity and its cost and then build up these costs into an overall pro forma. This method is appropriate to use when creating pro formas for the purpose of developing potential new ventures or radical innovations.¹

If CELS were to have 3,200 students, it would have a total operating cost (without room and board) of \$6,705 per student. This is the cost to the school, not the cost to the student. Price (i.e. tuition) is the

cost to the student. If CELS, like most colleges today, was heavily subsidized by a state and/or private philanthropy, then it could charge tuition well below its cost of \$6,705. Appendix II presents the detailed pro forma for CELS, and can serve as a starting point for costing other value-designed models. For example, a value-designed liberal arts college with only 1,200 students will cost about \$2,000 more per student. It will lose some economies of scale, but that is partially offset by a narrower product line in the absence of higher-cost business and engineering faculties. CELS will have Division III athletics. If you want Division I athletics, per student costs will likely climb.² If you want to add a research or public-service component, about \$2,400 more per student would create small but world-class research shops in each of CELS's nine areas.³

Not surprisingly, CELS's cost of \$6,705 will be drastically below the cost of “top” liberal arts schools (\$21,000⁴–\$46,600⁵) that cater to prestige-oriented customers. But it will also be well below the \$12,000⁶ cost of public regional colleges catering to price-driven customers and a less academically selective student body. CELS has a major cost advantage, even though CELS faculty salaries will be competitive with those of faculty at research universities, a laptop computer will be included in tuition, and the Division III football stadium will have a JumboTron screen. A college using the CELS model could deliver a prestigious, quality product to its target market and still have vastly lower costs.

Reducing Cost and Improving Quality—Today and Tomorrow

The ramifications of this analysis are striking. Literally tens of billions of dollars are wasted every year. This waste can be largely eliminated, but it cannot be done overnight. Most existing schools should not immediately convert to the CELS model or any other value-designed model. These new models need to be tested and refined on a small scale before wholesale adoption. Beyond that, the barriers to innovation at most colleges are probably far too high to make adoption feasible now.

At this time, public policymakers, concerned citizens, and educators should actively encourage innovators. Then, over time, many existing colleges will imitate successful pioneers, both because the pioneer has developed the innovation and demonstrated its usefulness, and because the pioneer's success puts pressure on underperformers to increase productivity. Thus, higher-education industry performance could improve dramatically over time. In order to reap widespread benefits from innovation in the future, however, there must be innovators today.

These pioneers might come from a variety of places. For example, for-profit schools have successfully competed in the nontraditional student market, but they face more problems in the traditional student market. Unlike the nontraditional student market of the '90s, the contemporary traditional student market has many competitors with well-established brands and valuable alumni bases. Furthermore, the brand equity that for-profits have in their current markets will probably not transfer to the traditional student market. In fact, the concept of a for-profit college is likely a difficult one for many potential students to accept. On top of that, a model that works in the nontraditional market is very different from one that works in the traditional market.

The established nonprofits also have a much lower cost of capital. Even modestly successful colleges have attractive physical campuses that were built with donated capital either from private sources or the state. Many have large endowments. As my analysis shows, though, a for-profit could build a campus from scratch and still achieve a 34 percent annual return on invested capital if it was able to price at a public regional colleges cost.⁷

A much bigger problem than the cost of capital is the subsidy that states provide to public schools. So, while CELS might cost \$6,700 and big state universities might cost \$17,000, big state universities can charge a price of \$7,500 to in-state students.

For-profits, however, have one major advantage over nonprofits, though: they are not subject to Bowen's Laws—"Colleges raise all the money they can, and spend all the money they can raise."⁸ Bowen's Laws hold because a college's organizational physiology (its structure, systems, process, and people) leads to higher costs without improving benefits.⁹

The free-standing, for-profit approach is not the only cure for a spendthrift organizational pathology. One approach would partner a nonprofit college with a for-profit professional-services firm owned by educators. The professional-services firm would manage the college within guidelines determined by the college's trustees. It would staff the college with faculty and other employees acceptable to the college's trustees. Several members of the faculty and executive management would be partners in the professional-services firm. It would charge enough to cover costs and earn a profit for its partners. In the CELS case, contracting with a professional-services firm—whose profit is 10 percent of costs—would increase cost by \$671 per student. Assuming all of the college's capital would be donated, the total cost per student would be \$7,376—hence the title of this paper.¹⁰

There are numerous variations on this approach. Some do not require a separate for-profit entity.¹¹ With a cost of \$7,400 and an endowment payout rate of 4.5%, it takes \$164,000 per student of endowment to run tuition free. But no matter how it is done, Bowen's Laws must be broken for a college to perform consistently at high levels.

Unfortunately breaking Bowen's Laws will be next to impossible at most existing private colleges. Numerous private colleges have endowments big enough to operate tuition free if they adopted a value-designed model, but they are unlikely to do so. Several private schools are extremely successful in catering to the prestige-oriented customer. From an economic standpoint, converting to a value-designed model is not attractive to them. But this is not true for most private schools, which largely copy the models of successful prestige schools, but without the prestige schools' financial resources or brand equity.¹²

As evidenced by the large in-state enrollments at public research universities, much of the selective-to-highly selective student market is value-oriented. Because of the government subsidy that state institutions receive, it is currently difficult for private schools to compete for these students.

A value-designed model allows private schools to charge tuitions close to those of state universities. With price competitiveness, a private school can compete in the value market by showing that it offers its target market more benefits. The key is to define and deliver a benefit that an adequate number of students want and that a public university cannot deliver.

For example, some students want to go to a small school. As CELS demonstrates, it is possible to run a small school efficiently. Another segment is interested in a school with a strong religious orientation. While many students may object to strong religious overtones, others seek them. There are likely many students who want this type of education who are currently in public institutions because of the large tuition differential.

From the college's standpoint regarding both economic sustainability and maximizing benefit to students, most private schools would be better off with a value-designed model. But because the barriers to innovation in college are so vast, a private school should attempt a value-designed model only if there is strong commitment from its president and trustees. Perhaps a few private colleges will accept the challenge.

While attractive to only a few existing private colleges, value-designed models should be extremely

appealing to a start-up college. When properly designed, a college can be small yet reasonably priced. While disadvantaged by lack of brand identity and a small alumni base, a start-up has one major advantage over an existing college: it does not face internal barriers to innovation. It can create an organizational physiology consistent with the delivery of value.

While substantial, the cost of a start-up college is not out of reach. With 3,200 students, CELS will need a \$50 million physical campus.¹³ A start-up could launch and achieve positive cash flow by building a smaller physical campus at first and then expanding over time. In an era when \$50 million donations to both public and private colleges are not unheard of, the cost of starting several new, value-designed colleges does not seem out of the question.

A value-designed model could also work in a multicollge university. The university could pursue innovation through a new value-designed college without disrupting their existing colleges' activities. Because CELS will be operationally self-sufficient, it will be able to provide its value proposition without interfering with the operations of the rest of the university. In fact, CELS needs little from the university. The major benefit to the CELS student will come from being part of the big-school environment. This benefit will be achieved simply by being physically located at a big university and having access to university-wide student life (e.g., student organizations, speakers, intramurals, intercollegiate athletics, etc.).

Because of CELS's advantageous cost position, a win-win-win situation can occur for the university, its students, and state taxpayers. Assume a public research university charges \$17,000 per student for an undergraduate education, and the state provides a subsidy of \$9,500 for in-state students. As a result, in-state tuition is \$7,500. When CELS is created, the university will pay it \$7,400 per student. Of this amount, CELS will pay the university for any services that it actually uses (e.g., rent for academic buildings, student life fees, etc.).

What cost \$17,000 to produce under the old model would now cost \$7,400, resulting in savings of \$9,600 per student. These savings could be split among the student, state, and university. Let's assume an equal split: tuition drops to \$4,300, the state subsidy is reduced to \$6,300, and the university gets \$3,200 to use for research and public service. Alternatively, if the state subsidy were to remain constant, the university could get \$2,1000 for research and public service, and in-state tuition could drop to \$0.

Conclusion

Value-designed models can radically reduce the cost of undergraduate education while simultaneously raising quality. Society can derive more benefit from undergraduate education, yet save billions of dollars a year. Improvement of this magnitude will not happen overnight, but it can happen. Now is the time to start.

APPENDIX I

College of Entrepreneurial Leadership and Society (CELS)

Value Proposition

We will provide a useful education for a productive, balanced life. We will target students who are willing and able to accept leadership roles. They will be interested in a broad education, avoiding both the vocational school and the “ivory tower.” They will be interested in professional success, but feel there is more to life. While many students may be somewhat individualistic, they will feel a strong responsibility to society.

We will provide a challenging and supportive environment. We will want students to succeed, but believe that true success requires overcoming challenges. We will support our students but not baby them.

We will provide meaningful learning experiences outside of the traditional classroom. We will target traditional students who want to be actively involved in college life. We will ensure that they have meaningful out-of-class experiences as part of their education.

We will focus on undergraduate education. While graduate education, research, and public service may be good missions, they will not be our mission. We will not use undergraduate education to subsidize other missions. We will not allow any of these missions to detract in any way from undergraduate education.

We will provide the best value for our target market. We will not try to attract the status-driven student or parent, nor will we try to be the lowest-priced route to a college degree. We will understand that wasteful spending raises costs, not quality. Our goal will be to provide a reasonably priced education of equivalent or better quality than high-priced colleges.

Curriculum

CELS will have a broad curriculum that will provide students with appropriate technical skills for entry-level jobs, potential to be a general manager of an organization early in their career, understanding of the “big picture,” and foundational skills and knowledge for life outside of work. With sufficient student demand, programs will be offered in business, behavioral science, communication arts, education, engineering science, information technology, letters and civilization (interdisciplinary humanities), public affairs, and science and technology. These programs will not only teach technical skills and current trends, but will also give students an understanding of the institutional, social, and intellectual histories of the profession, as well as its ethical and social responsibilities. (Appendix A is a list of CELS degree requirements and courses.)

Approximately 50 percent of the curriculum will be required courses for all students. This will include several interdisciplinary humanities/social sciences courses, as well as a smaller set of entrepreneurial leadership courses. Another 30 percent will be a core curriculum based on the professional program. To

allow students to customize their education, the remaining 20 percent of the curriculum will consist of electives from the student’s professional concentration, a minor area, or any other concentrations which match the student’s career goals and personal interests. Unlike most colleges, CELS will require its students to complete a significant, individually designed mix of out-of-class experiences (e.g., cocurricular activities, travel, jobs) supported by formalized faculty mentoring.

Educational Processes

CELS’s educational processes will be built upon existing best practices. CELS will be a leader in integrating and implementing these practices. Major best practices include:

- ❖ **Involving students in the campus community.** Students involved in the college community are more committed to the educational process and tend to learn more
- ❖ **Using common course design.** The widely used one-off approach involves a great deal of duplication of faculty work and produces wide variance from section to section in student learning.¹⁴
- ❖ **Focusing on credit hours, not contact hours.** A four-credit-hour class does not necessarily require four contact hours a week with faculty. The issue is the hours of effort required by a student, not the number of hours the student is in a classroom with a faculty member.
- ❖ **Using technology wisely.** Proper use of advanced instructional technology saves a lot of money. Technology is particularly helpful for course management, as well as for the “content dump” (e.g., podcast lectures) and “drill and kill” (e.g., programmed learning) components of instruction. But even in courses like introductory math that are almost pure “drill and kill,” many students benefit from having moderate structure and readily available personal assistance.¹⁵
- ❖ **Using high-participation/application teaching techniques for learning both basic content and higher level application skills.** The case method has long been used successfully in law and business schools. More recently, team-based learning has been used in a variety of disciplines.¹⁶ While it may sound similar, team-based learning is very different from “student-centric” techniques involving loosely focused class group work. With team-based learning, tightly focused small group and all-class discussions are blended in a single class period. By working in 5–7 person teams, students are forced to be actively involved in learning both content and application. A team-based learning class of 100 generates more in-class involvement than a traditional lecture class of nineteen, at a drastically lower cost.
- ❖ **Using small classes sparingly.** Small classes are necessary if the student’s work in a course needs to be highly customized. In most courses, however, small class size is not necessary, nor does increase student benefits. Small classes are a disaster from a cost standpoint, so they should be held only when there is a strong and clear student benefit.
- ❖ **Using small cohorts to create community.** Use of big classes with small cohorts builds community better than small classes with large cohorts, and at a significantly lower cost. This is the approach long taken by major law schools and graduate business schools that divide incoming first-year students into groups of about 100. Students then take all their first-year courses only with students in their section. While class size is relatively large, community is created because the same 100 people are in each class.

- ❖ **Providing top-notch advising.** For a minimal additional cost, excellent career, academic, and personal advising service significantly increase the ability to customize students' education and increase their satisfaction and commitment.
- ❖ **Using off-campus programs to provide specialized training and enrich the educational experience.** If foundational courses are strong, a limited amount of off-campus programming add a great deal of educational flexibility.

CELS will use all of these best practices. All courses other than tutorials, field projects, and independent studies will be commonly designed. Technology will be used aggressively where appropriate. The campus will be wireless and all students will be provided with a laptop. Class management will be totally computerized, and podcast lectures and programmed learning will be used where appropriate.

Given the nature of CELS's value proposition, most of the curriculum will be built around high-participation/application courses. Small classes under ten will only be used early in the required communications course and some basic personal skills development classes, and later in formalized mentoring and field projects.

The CELS approach to teaching will not only be highly cost-effective, but also highly personal due to its targeted use of small classes and heavy use of team-based learning. Key to the management of the student's junior and senior years will be the area of concentration tutorial. Every semester, junior and senior students will take a one-hour tutorial with up to five other students with similar career interests. Through the tutorial, the student's mix of courses, out-of-class learning experiences, and job or graduate school searches will be formalized and mentored by a faculty member who is qualified to provide personalized academic and career advice.

In addition to a required internship, students will also be able to look outside the walls of CELS for specialty course work that CELS will not offer. Because the required course work ensures that students will receive a strong and broad foundation, CELS will be able to allow its students flexibility in pursuing off-campus learning opportunities. Of particular interest will be the numerous relatively open-enrollment ("special student" status), short-term courses, particularly those offered in the summer.

Many major universities offer a good selection of upper-division courses coupled with special student enrollment options in the summer. Further, offering short-term intensive courses is not limited to traditional American educational institutions. For example, CELS students desiring to improve their language skills and cultural knowledge will be able to attend a summer language institute in a country where that language is dominant. Similarly, students wanting advanced study in film-making will be able to take the basic courses at CELS and then spend a summer in Los Angeles at a film academy, or public affairs students will be able to take a specialty course and internship in DC through the nonprofit Washington Center or several other fellowship programs. While prices for these outside courses are above CELS rates, they are competitive with most private schools' regular session rates and even cheaper than some. Paying higher tuition for 6–12 hours of a college degree is a lot cheaper than paying high rates for all 128. These specialty off-campus programs can add value by giving students experiences they cannot receive through traditional on-campus education. In addition, by taking advantage of off-campus programs in the summer, an academically ambitious student will be able to graduate in three years.

Student Life

A major component of the educational process at CELS will be a house system, somewhat along the lines of the residential colleges at Harvard and Yale.¹⁷ Every freshman will be randomly assigned to a house they will belong to for all four years. Houses will be same-sex and have 150–225 members, including about fifty entering freshmen a year. The house will be the primary social unit for the student while in college. In this regard, the house will function somewhat like a Greek house, with a high level of student management, but within a clear framework established by CELS. Students will be required to live in the house for their first two or three years. Students living outside of the house will still participate in house activities, including weekly house dinners.

In addition to internal social functions, the house will be the primary unit for student participation in a variety of broad-interest student life activities like intramural sports, general community service projects, “varsity revue,” and homecoming. (Special interest student activities will generally be done at the college rather than the house level. e.g., professional clubs, religious organizations, student newspapers, Young Democrats/Republicans, jazz band, etc.) High student involvement in the activities of these self-governing houses will be central to the CELS value proposition.

The house will also be the delivery point for the required personal skills development courses taken during the freshman and sophomore years. As part of their personal development course, students will be required to participate in a variety of ways in the activities and management of the house.

Each house will have a faculty member who serves as senior tutor. The senior tutor will actively advise the house government and ensure that the house is operating within the framework established by CELS. In addition to advising the house government, the senior tutor will play a major role in every house member’s academic and personal development, particularly during the first two years. The senior tutor will be the academic and personal advisor for all freshman and sophomores in their house, and will also be responsible for the personal skills development courses for their house. Upperclassmen will serve as junior tutors, assisting the senior tutor with certain house responsibilities.

A group of 6–7 freshmen will live in the same part of the house with their assigned junior tutor. Junior tutors will assist the senior tutor in providing a structured program of personal development and academic counseling for their tutorial group. The junior tutors’ formal structured roles will include serving as group facilitators in the personal development course, personal mentors on some personal development skills (e.g., time management), and mentor/monitor of participation in student life activities in both the house and college. In addition, each underclass student will have an informal personal mentor who is a junior or senior member of the house.

In addition to the senior tutor’s formal roles in the house, he or she will provide a great deal of informal encouragement and guidance. The senior tutor will have an office in and eat a majority of meals at the house. In addition, every regular faculty member will serve as a fellow of a house, promoting communication between faculty and students. This results in 4–5 faculty fellows for per house. The fellows’ role will be informal, but will require regular attendance at house dinners and major house activities.

Staffing

CELS will have fewer faculty members than a traditional institution, but its faculty will be top-notch. CELS faculty will be generalists with a strong commitment to the CELS model. CELS will have three types of full-time faculty: professors, teaching fellows, and senior tutors. Professors’ and teaching fellows’

primary duty will be teaching academic courses, including upper-division tutorials. Both groups will also be involved, in a relatively informal manner, with student life. Faculty will attend weekly house dinners, advise student clubs, and attend student events.

In addition, professors will be responsible for representing CELS to the academic, professional, and local communities. They will be subject area thought leaders for CELS and may also have significant administrative responsibilities. A professor will serve as area coordinator for each academic area the college offers and will also play a significant role in overall institutional management. There will be at least one professor in each area. After that, the ratio of professors to teaching fellows in an area will be approximately 1-to-2.

At least one professor in each area will have a terminal degree. Other professors and teaching fellows may or may not have traditional academic credentials. In some areas, such as behavioral science, a PhD will be the norm, but in others, such as business, many may possess a masters degree. No matter what level degree they have completed, all professors and teaching fellows will possess and maintain high subject matter expertise, practical experience, and the ability to communicate with undergraduates.

As part of representing CELS to the academic community, professors will be given a limited amount of release time to do research. All faculty with traditional academic backgrounds will be able to pursue part-time traditional research activities independent of CELS. All faculty will be required to do a modest amount of public service. In addition to research and public service, CELS will strongly encourage faculty to engage in other types of professional activities (e.g., consulting) independent of CELS. CELS will allow faculty to be on three-quarter or half-time status so long as they fully discharge their CELS duties.

Senior tutors are vital to the success of the house system. Like regular faculty, senior tutors will be both reflective and action-oriented. They will not be traditional faculty, however, as they will be chosen for their ability to promote the general welfare and personal development of undergraduates. Most senior tutors will have a masters degree with at least four years of work experience. About 60 percent of a senior tutor's time will be devoted to house responsibilities and managing the personal skills development courses. The remainder of his or her time will be devoted to teaching and/or more traditional staff roles.

Adjunct faculty will be used primarily to cover niches. Unlike most schools, CELS will not use adjuncts as a cost reduction tactic. The CELS adjunct will be someone in the community with specialized knowledge and expertise who enjoys teaching one or two courses a year.

EXHIBIT A CELS DEGREE REQUIREMENTS AND COURSES¹⁸

All courses are for four credit hours unless otherwise indicated.¹⁹ Some courses are shown more than once if required in more than one area or if they would be an appropriate elective in another area.

CORE

Civilization: Historical Perspective	Lifespan of Human Development	
Civilization: Institutions & Individuals I	Thinking Skills	6
Civilization: Institutions & Individuals II	Personal Skills Development	4(1)*
Civilization: Literature & Fine Arts	Communication Skills	
Civilization: Theology & Philosophy	Science of Everyday Things OR other science	
Civilization: International Comparisons	Entrepreneurial Management	6
	Personal Finance	2
	Personal Law	2
TOTAL REQUIRED CORE	56	

* Four courses, each one hour long.

BEHAVIORAL SCIENCE

Required		Electives	
Two of the following:		History of Psychology	
Child Development	2	Behavioral Research Methods II	
Adolescent Development	2	Criminology	
Adult Development/Gerontology	2	Psychopathology II	2
Counseling Skills		Substance Abuse	2
Behavioral Research Methods I		Non-Normative Development	2
Psychopathology I		Family Therapy	2
Family Dynamics		Psychology & Religion	2
Assessment & Observation	2		
Social Work/Community Counseling	2		
Social Policy	2		
Managing Human Services	2		
Behavioral electives (see right column)	4		
Tutorial	4(1)*		
Internship			
TOTAL REQUIRED	40		

* Four courses, each one hour long.

BUSINESS

Required		Electives	
Intermediate Economics		Intermediate Accounting I	
Operations Management & Information Systems		Intermediate Accounting II	
Financial Accounting & Management		Advanced Entrepreneurship & Business Development	2
Marketing	2	International Business	
Law & Management	2	Real Estate	
Business Research Methods		Investments	
Business Models & Opportunity Development		Portfolio Management	2
Strategic Management Process		Banking	2
Finance & Capital Markets		Retailing	2
Field Project		Services Management	2
Internship		Sports Management	2
Tutorial	4(1)*	Nonprofit Management	2
		Promotions	
		Personal Selling	2
		Sales Management	2
		Human Resources	2
TOTAL REQUIRED	44		

* Four courses, each one hour long.

COMMUNICATION ARTS

Required		Electives	
Communications Performance I		Communications Performance II	
Media & Society		Creative Writing II	
Visual Media I	2	Feature Writing	2
Sight & Sound		Digital Filmmaking	
Creative Writing	2	Linguistics	
Writing for Media		Visual Media II	
Reporting & Editing	2	Marketing	2
Communications Law & Ethics	2	Public Relations	2
Tutorial	4(1)*	Promotions	
Field Project		Advertising	2
Internship		Music Skills	
		Music Skills II	
		Visual Arts Studio	8(1)**
TOTAL REQUIRED	40		

* Four courses, each one hour long. ** One hour studio courses that can be repeated 8 times.

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EDUCATION

Required, 6–12		Required, K–5	
Foundations of Education		Foundations of Education	
Learning Theory & Course Design		Learning Theory & Course Design	
Measurement & Evaluation	2	Measurement & Evaluation	2
Educating the Exceptional Child	2	Educating the Exceptional Child	2
Student Teaching	12	Student Teaching	12
Tutorial	4(1)*	Tutorial	4(1)*
Adolescent Development	2	Child Development	2
Teaching Methods for 6–12		Teaching Methods for Early Childhood	
		Teaching Methods for Elementary	
Content area courses vary		Child & Adolescent Literature	2
		Visual Media I	2
TOTAL REQUIRED	28+ ?	TOTAL REQUIRED	42

* Four courses, each one hour long.

ENGINEERING SCIENCE

Required		Electives	
Calculus I		Civil & Environmental Engineering	2
Calculus II		Electrical Engineering	2
Calculus III & Differential Equations		Computer & Electrical Engineering	2
Computer Programming I		Mechanical Engineering	2
General Chemistry I		Chemical Engineering	2
General Physics I			
General Physics II			
Introduction to Engineering Design	2		
Introduction to Engineering Systems	2		
Advanced Engineering Design	2		
Advanced Engineering Systems			
Chemical & Thermal Processes			
Continuum Mechanics			
Circuits & Digital Electronics			
Engineering Electives (see right column)	1		
Tutorial	4(1)*		
Field Project			
Internship			
TOTAL REQUIRED	64		

* Four courses, each one hour long.

INFORMATION TECHNOLOGY

Required		Electives	
Calculus I		Advanced Decision-Making Technology	2
Operations Management & Information Systems		Advanced Data Exploitation	2
		E-commerce	2
Computer Programming I		Organizational Strategy & Information Systems	2
Computer Programming II		Advanced Computer Science	2
Systems Analysis & Design			
Database Management & Exploitation			
Data Communication	2		
Decision Making Technologies	2		
Tutorials	4(1)*		
Field project			
Internship			
TOTAL REQUIRED	40		

* Four courses, each one hour long.

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LETTERS AND CIVILIZATION

Required		Electives	
Christianity		History (all 2 hours)	
Literary Classics		African-American	
Historical Inquiry	2	Gilded Age to Great Depression	
Literary Analysis	2	American Frontier	
Letters & Civilization electives (see right column)	14	State & Local History	
History (at least)	4	World War II	
English (at least)	4	Post–World War II America	
Theology/Philosophy (at least)	2	American Civil War	
Senior Paper		Women in History	
Minor (includes Tutorial and Internship)	20	Classical Civilizations	
		Medieval	
		Renaissance & Reformation	
		Modern European	
		English (all 2 hours unless indicated)	
		Shakespeare & Contemporaries	
		19th Century Literature	
		20th Century Literature	
		Current Authors	
		Lyrics	
		Creative Non-Fiction	
		Theater I	
		Theater II	
		Film I	4
		Film II	
		Television	
		Theology/Philosophy (all 2 hours)	
		New Testament	
		Old Testament	
		History of Philosophy	
		World Religions	
		The Two Cities	
TOTAL REQUIRED	54		

* Four courses, each one hour long.

PUBLIC AFFAIRS

Required		Electives
Intermediate Economics		Advanced Policy Research Methods
Policy Analysis & Formulation		Political Campaigns
Political Economy	2	Community Development
Comparative Systems		
American Government		
Public Administration	2	
International Relations	2	
Current Domestic Policy Issues		
Current Foreign Policy Issues		
Tutorial	4(1)*	
Field Study		
Internship		
TOTAL REQUIRED	42	

* Four courses, each one hour long.

SCIENCE AND TECHNOLOGY

Required		Electives	
Calculus I		General Physics II	
Computer Programming I		General Chemistry II	
General Biology		Organic Chemistry I	
General Physics I		Organic Chemistry II	
General Chemistry I		Human Physiology	
Environmental Science I		Cellular Biology	2
Science & Technology or Engineering		Genetics	2
Science electives (see right column)	8	Environmental Science II	
Tutorial	4(1)*	Environmental Science III	
Internship			
TOTAL REQUIRED	40		

* Four courses, each one hour long.

APPENDIX II ESTIMATED OPERATING EXPENSES FOR CELS

COLLEGE OF ENTREPRENEURIAL LEADERSHIP AND SOCIETY PRO FORMA STATEMENT OF EDUCATION & GENERAL (E&G) OPERATING EXPENSES

Activity	Total (thousand \$)	Per FTE (thousand \$)
Instruction	7,571	2.366
Research	0	0.000
Public Service	0	0.000
Academic Support	3,703	1.157
Student Services	7,057	2.205
Institutional Support	3,126	0.977
Total	21,457	6.705

This pro forma statement was created using the build-up method. It assumes that CELS is a fully operational school with a stable enrollment of 3,200 students distributed across areas of concentration as follows:

CONCENTRATION OF STUDENTS

Concentration	Number of Students
Education	240
Public Affairs	400
Letters and Civilization	450
Science and Technology	170
Engineering Science	170
Communication Arts	400
Information Technology	170
Behavioral Science	400
Total	3,200

It will be located in an area of the United States with an average cost of living. All buildings will be newly built at current building costs.

This pro forma statement follows standard accounting practices for colleges. It includes all operating expenses in what is often referred to as an educational and general primary budget. This is the number usually referred to when discussing educational cost per student. It does NOT include:

- revenues of any kind
- institutionally funded scholarships (these are actually a price discount off tuition price)
- any financing expenses²⁰

- expenses associated with sponsored research (e.g., research paid for by third parties like the National Science Foundation, National Institutes of Health, or private industries)
- expenses of auxiliary services such as dorms and bookstores, which are generally self-supporting and not viewed as educational costs

Expenses are classified using standard activity categories for colleges.²¹ To facilitate comparison with both public and private colleges, physical campus costs are treated as a separate category and then charged out to the other main cost categories.²² Detailed statements with explanatory notes for each major activity follow.

INSTRUCTION

Expense	Total (thousand \$)
Regular Faculty	5,479
Lab Faculty	788
Other Instructional	211
Information Technology	212
Depreciation	344
Physical Plant Operations & Maintenance	536
Total	7,570

Regular Faculty

Area	Large Section	Small Section	Total Section				Professor	Fellow	Adjunct	Total (thousand \$)
				Professors	Fellows	Adjuncts	Compensation	Compensation	Compensation	
Core	104	0	104	6	13	0.3	105	67	32	1,509
Behavioral Science	14	8	22	1	3	0.0	105	65	32	301
Business	25	27	52	3	6	0.5	135	90	32	960
Communication Arts	24	13	37	2	4	0.7	95	60	32	451
Education	7	18	25	1	2	1.1	100	60	32	256
Engineering Science	11	6	17	1	2	0.1	110	80	32	273
Information Technology	9	6	15	1	1	0.6	120	80	32	219
Letters and Civilization	18	15	33	2	4	0.1	85	60	32	414
Public Affairs	13	13	26	1	3	0.5	115	75	32	357
Science and Technology	12	4	16	1	2	-0.1	90	60	32	208
Buffer	22	15	37	2	5	-0.1	105	65	32	531
Total	259	125	384	21	45	4	-	-	-	5,479

Faculty needs will be determined first by seeing how many course sections need to be offered in a year. Given the CELS commitment to offering three-year accelerated degrees, at least one section of every course in the curriculum will be offered at least once a year. Multiple sections may be necessary based on enrollment. For example, with 800 first-year students and an enrollment cap of 100 per section, CELS will need to offer eight sections a year of “Civilization: Historical Overview.”

The first column in the table (Area) at the bottom of page 21 is the academic area of the course. The second column (Large) shows the number of regular course sections needed in a year. For example, I anticipate needing twenty-five sections of business in the year. In determining the number of sections, I assumed an enrollment cap of 100 per section (except for some communications classes, which will be capped at twenty-five or fifty).

The next column (Small) is the number of small section courses needed. These will be small classes by design. Internships will not meet as a class, but will require faculty supervision. “Class” size is estimated at thirty for internships and four for student teaching. The tutorials and field projects will be taught in very small sections, generally capped at five. Due to their nature, these courses will require less faculty time than a traditional course. For example, a faculty member teaching a four-hour field project class will only need to meet with the students an hour a week and spend about one hour a week outside of class. This is about one-quarter the amount of time necessary to teach a traditional class. So, this column is stated in terms of traditional class teaching load equivalents. The actual number of small sections offered will be a little less than four times the amount shown.

The next column (Total) shows the number of total sections that need to be covered in both regular and small section equivalents. These sections will be covered by professors, teaching fellows, and adjuncts. Professors will teach four sections a year, fellows six, and adjuncts eight (on a full-time equivalent position [FTE] basis).

Each traditional course will take about ten hours of work a week. Faculty will generally need to be in class for four hours a week. Since the courses are commonly designed, class preparation should take about four hours a week and course management about two. Teaching three courses a semester will mean a fellow devotes about thirty hours a week to formal courses. This will leave five hours for informal interaction with students and five hours for keeping up-to-date in their field. Thus, the fellow’s overall commitment to CELS will be forty hours a week during the academic year. Fellows will then be free to devote as much time as they wish to professional activities or personal research outside of CELS.

Professors will teach fewer sections. This will give them an additional ten hours a week to devote to representing CELS to the academic, professional, and local communities, and to being a CELS thought leader for their area.

The columns labeled “Professors,” “Fellows,” and “Adjuncts” represent the number of faculty needed to teach the necessary sections. Adjuncts will be reported on an FTE basis (e.g., 125 adjuncts represent one class taught by an adjunct). Given our value proposition, the use of adjuncts will be low.²³

The next columns (Professor Compensation, Fellow Compensation, and Adjunct Compensation) show the salary and benefit costs for professors, fellows, and adjuncts.²⁴ Salary costs will vary a great deal by area of concentration. Generally, salary costs will be comparable to those at smaller doctoral-granting universities.²⁵ These salaries will be competitive with those paid at top liberal arts colleges and research universities, except no premium will be paid to research “stars.”

Salaries for fellows will be similar to assistant/associate professor salaries except in high salary areas, particularly business. Here it will be hard to find faculty with a PhD who also have significant real-world

experience. Since CELS will require faculty with real-world knowledge and experience, recruiting for these positions will often not compete with research schools. Fellows in these areas will be paid substantially less than what they could earn in business. Pay will be set high enough, however, to be attractive to those who are drawn to the faculty for nonfinancial motives (e.g., they enjoy teaching, being around college students, satisfying their intellectual curiosity, job flexibility and variety, and/or a more relaxed lifestyle²⁶).

The total compensation column is the number of faculty by rank multiplied by compensation by rank.

The row for core faculty reflects the cost of teaching required core courses. There will not be a separate core faculty, however; these faculty lines will actually be spread among the different areas as appropriate.

The buffer row refers to additional faculty that may be necessary for two reasons: First, actual course enrollment patterns will vary somewhat from the smooth patterns used in these projections. This should not be a major problem, as large class size will be capped at 100 in these projections, while actual course size can go to 125; and small class size will be capped at five, while actual size can go to six. The second reason for including a “buffer” in these projections is that the CELS value proposition will include scheduling so that any student can take any course if he or she plans ahead.

The projections by academic area assume offering only one section of a course in a year, unless the projected enrollment exceeds the enrollment cap. To allow students full scheduling options, however, some courses may need to be taught in multiple sections, even though total enrollment will not exceed the cap. Buffer sections will most likely be for courses in one concentration that are also attractive as an elective to students in other concentrations (e.g., Marketing, Communications Performance I, Film I and II, Counseling Skills, etc.).

Lab Faculty

Labs	Students	Compensation	Fellows	Compensation	Cost (thousand \$)
Communications	–	–	8	55	440
Math/Statistics	2	9	1	60	78
Science/Engineering	2	9	1	60	78
Fine Arts	1	9	1	50	59
Senior Tutors	–	–	1.6	72	115
Junior Tutors	30	0	–	–	0
Other	2	9	13	–	18
Total	–	–	–	–	788

Teaching fellows in the Communications Lab will be responsible for: 1) providing individual evaluation, feedback, and coaching to all students in the required communications course, 2) individual evaluation, feedback, and coaching to all students on the mandatory communications elements integrated into their other core courses, and 3) ad hoc general communications consulting as requested by students. The projections assume one consultant for every 100 first-year students.

One teaching fellow will be responsible for running a lab that provides support in courses in math, statistics, and other quantitative methods (e.g., Thinking Skills, Research Methods in Behavioral Science).

There will be one senior tutor for every house of 200 students. Ten percent of a senior tutor’s time will be devoted to teaching the personal development course in their house. So, 1.6 FTE of senior tutors will be charged to instructional expense.

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Junior tutors will not be compensated for their role in the first-year personal development courses offered in each house. By graduation, about half of all CELS students will have served one semester as a junior tutor.

In addition to faculty, well-trained and supervised upper-division students will be involved in instruction. Students will also assist in science and engineering labs, the math/statistics lab, and various small labs (e.g., accounting). The number of students shown is an FTE number.

Other Instructional Expenses

Expense	Cost (thousand \$)
Faculty Miscellaneous Operating Expenses (MOE)	80
Engineering and Science Equipment/Supplies	100
Copying	32
Total	212

Faculty MOE will be \$1,000 per faculty member (\$400 for computer, \$250 for phone, \$100 for general supplies, and \$250 for furniture).

Copying costs will be \$10 per student to copy course handouts.

Information Technology (IT)

Expense	Cost (thousand \$)
IT Software	16
Central IT Allocated	196
Total	212

IT software will be \$5 per student for a course-management system like Blackboard, WebCT, or Desire to Learn.²⁷

Central IT allocated represents central IT costs allocated to instruction (see schedule).

Depreciation

Depreciation is straight line with a fifty-year life. Depreciation is allocated to instruction based on building use (see schedule).

Physical Plant Operations and Maintenance

Physical plant operations and maintenance (PPOM) are allocated to instruction based on the square feet of space used in instruction (see schedule).

RESEARCH AND PUBLIC SERVICE

In addition to instruction, the other two primary activities of colleges are research and public service. CELS will do both on a very limited basis, and only as byproduct of instruction. As a result, all faculty

time related to research and public service will be charged to instruction.²⁸ Thus, CELS will not have any research and public service expenses.

ACADEMIC SUPPORT

Expense	Cost (thousand \$)
IT	1,332
Educational Media	175
Library	287
Off-Campus Programs	122
Senior Tutors	173
Academic Administration	583
Faculty Development	320
Course Development	480
Depreciation	84
PPOM	148
Total	3,703

IT

Expense	Number of Students	Cost per Student	Cost (thousand \$)
Hardware	3,200	0.325	1,040
Software	3,200	0.03	96
Central IT Allocated	–	–	196
Total	–	–	1,332

CELS will provide every student with a laptop. Computer costs per student are estimated, given a useful life of four years (the student keeps the laptop upon graduation). Cost per machine, including four-year warranty, will be \$1,300.

Software includes Microsoft Office products for all students and software such as AutoCAD or SAS for specialty academic labs.

Library²⁹

Expense	Full-Time Equivalent Position	Compensation per Position	Cost (thousand \$)
Director	0.5	72	36
Coordinator	2	40	80
Desk Help	4	9	36
MOE	–	–	10
Books/Data	–	–	125
Total	–	–	287

The \$7,376 “Ivies”: Value-Designed Models of Undergraduate Education

Research will not be a CELS function, so CELS’s information needs will be much less than those of a research school. The purpose of the library will be to support CELS’s teaching. Field project courses will often be information intensive, while normal courses will require little, if any, information beyond what is available in course texts.

Since CELS will not be a research school and will not maintain large holdings of never-referenced materials (e.g., back issues of print journals), staffing needs will be minor compared to most college libraries. CELS will maintain base holdings of 20,000 books and full access to all relevant electronic databases (e.g., LexisNexis, Academic Source Premier, Business Source Premier, etc.). The annual acquisition budget includes \$60,000 for databases, \$60,000 for books, and \$5,000 for browsing materials (e.g., current issues of newspapers and magazines).

Educational Media

Expense	Full-Time Equivalent Position	Compensation per Position	Cost (thousand \$)
Director	0.5	72	36
Senior Technician	1	50	50
Technician	2	20	40
Secretary	1	24	24
Equipment	–	–	20
MOE	–	–	5
Total	–	–	175

Educational media will provide the technical support necessary to create, package, and deliver course media internally to CELS students.

Off-Campus Programs

Expense	Full-Time Equivalent Position	Compensation per Position	Cost (thousand \$)
Manager	0.5	72	36
Coordinator	1	40	40
Secretary	1	24	24
Travel	–	–	15
MOE	–	–	7
Total	–	–	122

Student participation in off-campus programming, both international and domestic, will be encouraged. This office will identify quality programming and manage the interface between specific programs and CELS students.³⁰

Academic Advising

Expense	Full-Time Equivalent Position	Compensation per Position	Cost (thousand \$)
Senior Tutors	2.4	72	173

Fifteen percent of a senior tutor's time will be devoted to academic advising for first- and second-year students in his or her house. After that, academic advising will be performed by faculty through area of concentration tutorials, and will be charged to instruction.

Academic Administration

Expense	Full-Time Equivalent Position	Compensation per Position	Cost (thousand \$)
Academic Area Coordinator	7	28	196
Analyst	1	72	72
Administrative Assistant	4	35	140
Secretary	4	24	96
Student	2	12	24
MOE	–	–	20
Faculty Recruiting	–	–	35
Total	–	–	583

Academic administration will include the middle tier of academic management. The top tier will be the provost, and will be charged to institutional support. The bottom tier will consist of department heads, and will be charged to instruction. The middle tier will include the various deans and their offices. At large research universities, the middle tier plays a major role and is expensive to operate. Given CELS's limited size and scope, middle-tier management will be unnecessary. The area coordinator's job will be a mix between a dean and a department head.

There will be one academic coordinator for each area of concentration. In addition to their regular ten-month faculty salary, academic area coordinators will be paid during the summer as compensation for having served as coordinator.

Administrative assistants and secretaries will support the area coordinators and faculty in their areas.³¹

Faculty Development

Faculty development will primarily cover attendance at academic and professional meetings, as well as modest out-of-pocket research expenses. It is budgeted at \$4,000 annually per faculty member.

Course Development

Once designed, all 120 courses will operate in a continuous improvement mode. Annual per course costs are estimated at \$4,000. Compared to other colleges, this is a very large expenditure, but quality course design will be fundamental at CELS.

The \$7,376 “Ivies”: Value-Designed Models of Undergraduate Education

STUDENT SERVICES

Expense	Cost (thousand \$)
Pastoral Care	203
Career Services	277
Student Organizations and Cultural Groups	984
Recreation/Intramurals	316
Intercollegiate Athletics	1,700
Financial Aid	236
Records	166
Admissions	618
Depreciation	1,303
PPOM	1,124
IT	131
Total	7,057

Pastoral Care

Expense	Full-Time Equivalent Position	Compensation per Position	Cost (thousand \$)
Senior Tutors	2.4	72	173
Consulting/Training	–	–	20
MOE	–	–	10
Total	–	–	203

“Pastoral care” is a British term for providing students with assistance and guidance in nonacademic issues. Senior tutors will be primarily responsible for pastoral care. They will devote 15 percent of their time to advising the student-run house government and providing ad hoc, one-on-one assistance to students on a variety of social, emotional, physical, behavioral, moral, and spiritual issues.³² Sectarian religious activities will be voluntary, and will be staffed and financed by outside religious organizations. CELS will not provide mental health or medical services, but will instead refer the student to appropriate service providers in the community.

Career Services

Expense	Full-Time Equivalent Position	Compensation per Position	Cost (thousand \$)
Director	1	72	72
Coordinator	3	40	120
Secretary	1	20	20
MOE	–	–	65
Total	–	–	277

Career services will be responsible for placing students in jobs upon graduation. CELS's staffing level will be at the high end of existing practice, and its high-quality career services will provide major benefits at a low cost per student.

Student Organizations & Cultural Groups

Expense	Full-Time Equivalent Position	Compensation per Position	Cost (thousand \$)
Program Manager	2	72	144
Program Staff	2	40	80
Secretary	1	20	20
Performing Arts Director	1	72	72
Performing Arts Technicians	1	30	30
Guest Speakers	–	–	100
Guest Artists	–	–	100
Graduation	–	–	20
Service & Operations	–	–	30
MOE	–	–	50
Student Publications Director	0.25	72	18
Student Publications Printing	–	–	30
Student Organizations	–	–	320
Total	–	–	1,014

Students will run student organizations and cultural activities, with the program managers and staff coordinating and providing support. Organizational support will be \$100 annually to be allocated by students to various student organizations.

Individual speaker fees vary widely. Many business and political speakers do not charge, whereas “professional” speakers can run anywhere from \$15,000 to over \$100,000.

Students will also primarily run the performing arts portion of social and cultural activities. Programming will be designed to maximize student participation.

The amounts budgeted for guest speakers and artists will be enough to provide an adequate level of quality programming to meet student needs. If the audience is enlarged to include the general community, both programs might be significantly expanded with external ticket sales and sponsorships.

Recreation/Intramurals

Expense	Full-Time Equivalent Position	Compensation per Position	Cost (thousand \$)
Director	1	72	72
Coordinator	3	50	150
Students	6	9	54
MOE	–	–	40
Total	–	–	316

The \$7,376 “Ivies”: Value-Designed Models of Undergraduate Education

Recreational sports/intramural activities will be popular at CELS. Luckily, most activities either will require no supervision (e.g., jogging, weights, pick-up basketball) or be largely student-run. However, there will be a significant gym that will need to stay open 100 hours a week.

Intercollegiate Athletics

Intercollegiate athletic teams will be NCAA Division III, in which “top” liberal arts schools participate. On the one hand, it will be a huge advantage from a cost standpoint because Division III does not allow athletic scholarships. On the other hand, it will also produce little income from ticket sales and media. CELS will have a high-quality program with football, but not ice hockey (the two most expensive sports). Costs are based on spending at similar schools.³³ The bulk of the cost will go to salaries for coaches and administration.³⁴

Records

Expense	Full-Time Equivalent Position	Compensation per Position	Cost (thousand \$)
Registrar	0.5	72	36
Coordinator	1	40	40
Clerks	2	24	48
Secretary	1	24	24
Students	2	9	18
Total	–	–	166

Records will be responsible for class scheduling, course enrollment, and maintenance of student academic records.

Financial Aid

Expense	Full-Time Equivalent Position	Compensation per Position	Cost (thousand \$)
Manager	1	60	60
Counselor	4	32	128
Clerk	2	24	48
Total	–	–	236

Financial aid will be responsible for administering institutionally based aid programs and assisting students in locating aid from external sources.

Both records and financial aid will be done using existing industry practices and costs.³⁵

Admissions

Expense	Full-Time Equivalent Position	Compensation per Position	Cost (thousand \$)
Director	1	130	130
Assistant Director	1	75	75
Counselors	4	40	160
Secretary	1	24	24
Students	3	9	27
Records Coordinator	1	40	40
Records Clerks	3	24	72
Travel	–	–	35
MOE ³⁶	–	–	55
Total	–	–	618

Admissions will be responsible for marketing and selling CELS to potential students. Compensation for staff will be at current market price.³⁷ Given that 800 first-year students enroll, cost per student will be \$773. This is higher than the average for public schools (\$667), but lower than the average for private schools (\$2,187).³⁸ CELS will have lower costs than private schools for several reasons: 1) it will be an easier sell because it is a much better value to the student,³⁹ 2) it will target recruiting efforts to the region where it will be located rather than send admission counselors around the county, 3) it will operate with no-haggle pricing,⁴⁰ 4) it will not attempt to build its applicant pool beyond the size necessary to fill its entering class with qualified students, and 5) it will not aggressively “shape” a class (e.g., try to enroll at least ten women engineering students).⁴¹

INSTITUTIONAL SUPPORT

Expense	Cost (thousand \$)
Executive Management	1,224
General Administration	313
Communications	264
Alumni and Development	233
Fiscal and Business	820
IT	166
Depreciation	36
PPOM	70
Total	3,126

The \$7,376 "Ivies": Value-Designed Models of Undergraduate Education

Executive Management

Executive Management	President	Chief Academic	Chief Business	Chief External	Chief Student
Position	250	160	160	150	110
Executive Assistant	72	40	40	40	40
Secretary	20	0	0	0	0
Travel	20	8	5	20	8
Housing/Entertainment	30	0	0	20	5
MOE	12	6	2	4	2
Total	404	214	207	234	165

The number of executive positions and their salaries will be based upon current industry norms for private schools of this size.⁴² As with other salary figures in these projections, compensation will include 20 percent for fringe benefits and assume that the school will be located in an area with an average cost of living. There may be some variance in salary based on cost of living.

General Administration

Expense	Cost (thousand \$)
Audit	30
Legal Fees	75
Board Costs	15
Liability Insurance	30
Directors and Officers Insurance	33
Institutional Memberships	20
Staff Development	25
Board/CEO Consulting	50
Mail	35
Total	313

Communications

Expense	Full-Time Equivalent Position	Compensation per Position	Cost (thousand \$)
Director	1	72	72
Specialist	1	60	60
Coordinator	1	40	40
Technicians	1	30	30
Travel	–	–	5
MOE ⁴³	–	–	57
Total	–	–	264

Communications will be primarily responsible for general institutional marketing. The major marketing expenses of CELS will be associated with admissions. Following standard accounting practice, sales and marketing costs of admissions will be reported as a student support expense rather than an institutional support expense.

Alumni and Development

Expense	Full-Time Equivalent Position	Compensation per Position	Cost (thousand \$)
Officer	2	72	144
Coordinator	1	40	40
Student	1	9	9
Travel	–	–	15
MOE ⁴⁴	–	–	25
Total	–	–	233

The alumni and development office will be staffed on the assumptions that CELS will not try to fund operating costs out of donations and will not engage in a major capital campaign. Expenses would be significantly higher if that were not the case. Of course, these expenses should generate contributions substantially in excess of their costs.

Fiscal and Business

Expense	Full-Time Equivalent Position	Compensation per Position	Cost (thousand \$)
Bursar	1	60	60
Senior Bursar Clerks	2	40	80
Bursar Clerks	3	24	72
–	–	–	212
HR Manager	1	60	60
HR Clerk	3	24	72
–	–	–	132
Purchasing Manager	1	50	50
Purchasing Clerks	2	24	48
–	–	–	98
Assistant Controller	1	72	72
Senior Accounting Clerk	2	40	80
Accounts Payable Clerk	2	24	48
–	–	–	200
Senior Financial Analyst	2	72	144
Student Analyst	1	9	9
–	–	–	153
MOE	–	–	25
Total	–	–	820

The \$7,376 “Ivies”: Value-Designed Models of Undergraduate Education

Institutional support will also include most finance and administrative functions. These functions will be provided using existing industry practices and costs.⁴⁵

IT

Expense	Cost (thousand \$)
Central IT Allocated	131
Software	35
Total	166

Software will be for accounting and student records, and will cost \$11 per student annually.

SCHEDULES

Physical Campus

Use	Square Feet	Cost (thousand \$)
Classroom	54,660	8,582
Laboratories	10,290	2,057
Offices	37,000	5,180
Library	19,553	2,776
Auditorium/Theater	22,000	4,405
Student Lounges/Meeting Rooms	16,000	2,288
Recreation Building	52,000	9,112
Multipurpose Arena	80,000	20,000
Stadium	–	15,000
Media Production	5,000	950
Support Facilities	3,000	300
Total	299,503	70,650

An attractive campus is important to residential college students. CELS will have top-of-the-line facilities. Costs will be controlled by not building excess space.

Rather than cost out specific buildings, most physical space needs were assessed at the college level using guidelines published by the Council of Educational Facility Planners International.⁴⁶ After space needs were determined, cost of the building was then estimated using national cost data from RSMeans.^{47, 48} Because RSMeans costs are for an average building, they were adjusted upward by 20 percent to account for high-quality upgrades such as iconic architectural elements and above-grade finishes.⁴⁹

The auditorium/theater will be a 350-seat facility with supporting performance and rehearsal space.

The multipurpose arena will be a state-of-the-art facility that seats 3,500 people for basketball and over 4,000 for convocations and concerts. Recent breakthroughs in arena design and sound systems and acoustics make it feasible for one facility to serve both purposes.⁵⁰ The arena will also be able to generate significant rental revenue from outside organizations and event promoters.

The stadium will seat 3,000 people and offer major college-level amenities. Cost estimates for both the arena and stadium came from a leading architectural firm.⁵¹

Depreciation

The total value of the campus is divided by fifty years to determine depreciation. Depreciation is then charged out to various functions based upon use. Classrooms, labs, and media production will be charged to instruction; the library will be charged to academic support; student lounges and meeting rooms, the auditorium/theater, the recreation building, the multipurpose arena, and the stadium will be charged to student services; support facilities will be charged to institutional support; and office space will be charged to the various functions based on the number of faculty and staff.

Campus Operations and Maintenance

Campus operations and maintenance will be estimated on a square-footage basis as follows:

Cleaning	\$0.58
Repair/Maintenance	1.28
Utilities	2.18
Roads/Grounds	0.28
Security	0.11
Insurance/Administration	1.84
Total	\$6.27⁵²

Plant operations and maintenance will be charged out to various activities based on building use.

IT⁵³

Expense	Full-Time Equivalent Position	Compensation per Position	Cost (thousand \$)
Director	1	72	72
Staff	8	60	480
Student	3	9	27
Consulting	–	–	39
Hardware	–	–	35
Total	–	–	653

IT will be based around student laptops and controlled wireless access to the college network. Because of the limited geographic area on campus and the use of standardized hardware and software, IT will be able to provide an extremely high level of dependability and instructional functionality. Equipment costs assume \$140,000 of central computing equipment with a four-year life. Cost of the central IT office will be charged out to the various functions based on usage: 30 percent each to instruction and academic support, and 20 percent each to institutional support and student services.

Notes

1. William Bygrave and Andrew Zacharakis, *Entrepreneurship* (John Wiley & Sons, 2008).
2. Division I athletics are more expensive to operate on an absolute basis. Some Division I programs, however, generate enough revenue that they are totally self-funding.
3. This would produce about \$850,000 for each of the nine areas. That would be enough for two research “stars” in each area plus supporting cast, none of who would need to teach. The stars could then expand their research shops with grant money from outside sources. From an expenditure standpoint, this would put research on an equal basis with instruction.
4. Cost of a group of thirty-two schools that were generated by IPEDS as the comparison group for Hope College.
5. Cost of a group of ten schools that were generated by IPEDS as the comparison group for Williams College.
6. Cost of a group of thirty-three schools that were generated by IPEDS as the comparison group for Southeastern Oklahoma State University. Schools of this type usually have some small masters degree programs, so costs of research and public service were eliminated and the student population adjusted upward to double count graduate students.
7. This is assuming an investment of \$50 million in the campus. The pro forma shows a campus worth \$70 million, half of which is for a multipurpose arena and stadium that would be available to the community. I am assuming here that the college could get the community to pay a significant portion of the cost of the arena and stadium.
8. H. R. Bowen, *The Costs of Higher Education* (Jossey-Bass, 1980), 19–20.
9. See Alan Afuah, *Business Models* (2004), for a general summary of the relationship among organizational physiology, business models, and organizational performance. Bok (*Our Underachieving Colleges*), Zemsky, Wegner and Massey (*Remaking of the American University*), and Vedder (*Over Invested and Over Priced: American Higher Education Today*) all provide examples of how a college’s organizational physiology leads to higher cost without improving benefits. For a more theoretical explanation, see Andreas Ortmann and Richard Squire, “A Game-Theoretic Explanation of the Administrative Lattice in Higher Learning,” *Journal of Economic Behavior and Organization* 43 (2000): 377–91.
10. I really do not feel my numbers are that precise, but I chose the title to emphasize that closely measuring costs is a mandatory step to improving performance.
11. For example, senior administrators and faculty could be paid an annual performance bonus that rewards cost containment. Also see Arthur C. Brooks, *Social Entrepreneurship: A Modern Approach to Social Venture Creation* (Upper Saddle River, NJ: Prentice Hall, 2008), and Jim Collins, *Good to Great and the Social Sectors*, (New York: Harper Collins, 2005).
12. G. C. Winston, “For-Profit Higher Education: Godzilla or Chicken Little?” (working paper, 1998).
13. H. R. Bowen, *The Costs of Higher Education*, 19–20.
14. Carol A. Trigg, “Improving Quality and Reducing Costs: The Case for Redesign,” in *Course Corrections: Experts Offer Solutions to the College Credit Crisis*, Robert C. Dickeson, ed. (Indianapolis, Ind.: Lumina Foundation for Education, 2005, available at http://www.collegecosts.info/pdfs/solution_papers/Collegecosts_Oct2005.pdf).
15. Carol A. Trigg, “Improving Quality and Reducing Costs: The Case for Redesign,” in *Course Corrections: Experts Offer Solutions to the College Credit Crisis*, Robert C. Dickeson, ed. (Indianapolis, Ind.: Lumina Foun-

dation for Education, 2005, available at http://www.collegecosts.info/pdfs/solution_papers/Collegecosts_Oct2005.pdf.

16. Larry K. Michaelsen, Arletta Bauman Knight, and L. Dee Fink, *Team-Based Learning* (Sterling, Va.: Stylus Publishing, 2002).

17. Robert J. Ohara, *The Collegiate Way*, available at collegiateway.org, and Mark B. Ryan, *A Collegiate Way of Living* (New Haven, Conn.: Yale University, 2001).

18. Brant Adams, Rob Emerson, Ed Harris, Karen High, and Rick Wilson provided suggestions for coursework in the areas of concentration.

19. Many schools use three hours as their primary course length. Adjusting from four to three hours would require more courses but would not increase costs, since faculty course load would be adjusted proportionally.

20. Interest expenses associated with educational activities are negligible at most public and many private schools. The necessary buildings are paid for by either the state or donors.

21. National Association of College and University Business Officers.

22. Public schools are under Governmental Accounting Standards Board standards and report these expenses separately, while private schools are under Financial Accounting Standards Board standards and allocate expenses out to other activities.

23. Adjuncts are used more in education, following the standard practice of having student teachers supervised on an adjunct basis by retired school teachers.

24. Benefits are assumed at 20 percent of salary for all CELS employees.

25. *2006–2007 Faculty Salary Survey by Discipline*, Office of Institutional Research and Information Management, Oklahoma State University.

26. A fellow's yearly commitment to CELS is about forty hours per week for thirty-five weeks (one week before the fall semester starts; fifteen weeks of class per semester; and two weeks at the end of each semester for finals, grading, and wrap up). This is only about 60 percent of the time spent at a professional job that requires forty-six fifty-hour work weeks, and about 50 percent of a job with forty-six sixty-hour work weeks. On top of that, faculty work hours are predictable, and required travel is modest.

27. All software costs are based on prices currently paid by Oklahoma State University.

28. This is standard industry accounting practice.

29. In this and other category breakouts, the first column is the position or expense category. The second column is the number of people holding that position. The third column is compensation per person for that position. The final column is total compensation for that position or the amount of the other expense category.

30. CELS might also create some travel programs of its own. Any costs associated with CELS trips would be fully covered by program revenues.

31. Arguably, some of the cost of the area coordinators and their offices should be allocated to instruction rather than academic support. For this paper, these costs are allocated wholly to academic support to simplify the presentation of the financials.

32. Ron Best, *Pastoral Care & Personal Social Education* (Continuum, 2000).

33. Data for every college are available through "Equity in Athletics," Department of Education, available at <http://ope.ed.gov/athletics/>. The revenue data at this site are not as informative, since it treats all the costs borne by the college as revenue. Every school is therefore shown as breaking even on intercollegiate athletics.

34. For more detail, see above or *2002–03 NCAA Revenues and Expenses of Division III Intercollegiate Athletics Programs Report*, compiled for the National Collegiate Athletic Association by Daniel L. Fulks.

35. Personal correspondence with Bob Dixon of Oklahoma State University.

36. Miscellaneous operating expenses include a significant amount of marketing collateral (flyers, view-books, etc.) This is also true for the other functions with significant marketing, including communications and alumni and development. Most schools run these groups as three separate areas. That practice is reflected in these pro formas. The better practice, however, would be to manage them jointly (see Robert A. Sevier and Eric Sickler, “Is Image Still Everything?” (Statmats White Paper #14).

37. Sales force compensation in higher education is low relative to other industries. CELS will explore alternative approaches to admissions aimed at decreasing the cost per student enrolled.

38. *State of College Admissions 2006*, available through www.nacadnet.org.

39. This assumes that CELS will pass its lower costs on to its students.

40. The average tuition at private schools is often about 40 percent of sticker price. The admissions office is responsible for negotiating price with students by making decisions about the level of “institutional scholarship” (a discount from sticker price) to offer each student.

41. Personal correspondence with Robert A. Sevier of Statmats.

42. Personal correspondence with David Horner of EFT Associates.

43. See footnote 33.

44. See footnote 33.

45. Personal correspondence with Bob Dixon.

46. *Space Planning for Institutions of Higher Education*, The Council for Educational Facility Planners International (2006).

47. There are significant construction cost differences depending on where CELS is located. RSMeans provides a location factor that can be used to adjust national cost to a specific location. In this case, Dallas was assumed as the location.

48. *RSMeans Square Foot Costs 2008* (Reed Construction Data, Inc).

49. The 20 percent upward adjustment also includes the cost of campus infrastructure (e.g., roads, utility lines, etc.) and landscaping.

50. The facility will bear little resemblance to the multipurpose arenas built in the '60s and '70s. Many of these are still in use today and are substandard for either purpose.

51. Personal correspondence with Stewart Smith of Ellerbe Becket.

52. Rates are taken from the *2006 BOMA Experience Exchange Report—Average Metropolitan Rate in Oklahoma*.

53. Personal correspondence with Mark Weiser of Oklahoma State University.

In addition to those previously cited, the author received helpful insights into college cost structure from Rick Allen, Mary Bryan, Bill Elliot, Christie Hawkins, Darlene Hightower, Marcie Luter, and John Milan.

