

Toward A Liberal Arts Managerial Economics Pedagogy

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Abstract

We describe our department’s new, liberal arts Managerial Economics curriculum for undergraduates. Higher education experts have lamented the separation between management-related and liberal arts education. Our optional Managerial Economics track begins to bridge this gap by creating a focused sequence of courses integrated within the curriculum for departmental majors. The program benefits from faculty research within recent literatures combining economics and management, Allegheny’s expertise in experiential learning, and the College’s liberal arts tradition. Students are prepared to understand a rapidly changing managerial environment, the ambiguous and integrative nature of managerial problems, and the challenges posed by ethical pressures and globalization.

Key Words: Ethics, Globalization, Liberal Arts, Managerial Curriculum, Strategic Management
Disciplines of Interest: Business Economics, Economics, Managerial Economics, Management

INTRODUCTION

In 2001, Allegheny College's Department of Economics began working to create a new, liberal arts Managerial Economics (ME) curriculum, offered as an optional track for undergraduate economics majors. This paper discusses the theoretical, pedagogical and institutional implications of this effort. The program's goal is a strategy for bridging the divide between liberal arts and business education. While other schools are experimenting with ways of addressing the concerns that motivated us, we discuss here what we believe to be a distinctive approach: a focused set of ME offerings, designed and delivered within a traditional, liberal arts economics department. In addition to Allegheny's practice of the liberal arts, two other bases of this distinctive ME approach are an integration of management and economic theory, and an emphasis on experiential learning.

This effort should matter to post-secondary educators for two reasons. The first is the continuing secular rise in importance of the management function in our society. Peter Drucker [1998] argues that "Management is not business management, any more than, say, medicine is obstetrics [3]....The center of modern society is the managed institution....And management is the specific tool...to make institutions capable of producing results" [17]. According to Drucker, management education is a critical part of our work in training students for leadership not only in business, but also in government, health care, educational, and other institutions across the for-profit and nonprofit spectrum. To be taking our responsibility as educators seriously, we must be addressing this need.

The second reason the effort described here is important is the great but unrealized potential for the liberal arts to contribute to management education. We do not claim that this approach is the only valid one. But many have argued, and we agree, that liberal arts education offers one powerful framework within which to prepare students to deal with the professional and ethical challenges of management in our rapidly changing, globalizing world. By "liberal arts," we mean education that is based in traditional disciplines providing core intellectual tools for understanding the world; that emphasizes broad learning capable of integrating insights from many disciplines; and that models principled debate and understanding among differing perspectives [Glyer and Weeks, 1998]. This kind of education is practiced in the United States at liberal arts colleges like Allegheny, and in the undergraduate colleges of many universities as well. While historically, such schools have produced many successful business and nonprofit leaders, a liberal arts education that incorporates management preparation would make our future managers more effective in their various endeavors. Meeting the needs of today's management-oriented students in this kind of educational setting is a critical task.

Separation between business and liberal arts education has long been cause for concern among educators [see for example the Carnegie and Ford Foundation reports: Pierson et al., 1959; Gordon and Howell, 1959]. Bobko and Tejada [2000] argue the benefits of course work in traditional liberal arts disciplines for students of business: to help "*managers to respond flexibly to the ever-changing workplace...with an increased number of perspectives, and to have the awareness necessary to value and embrace those many perspectives*" [1; emphasis in original]. Chew and McInnis-Bowers [2004] go further, arguing that even requiring business undergraduates to complete liberal arts prerequisites before entering into management studies

reinforces the implicit separation of the two realms. They report instead a “blending” of the two in an introductory “Foundations of Business Thought” course for business majors.

In what follows, we describe a deeper and more extensive strategy for blending management and liberal arts education. We start by reviewing the status of business and management related offerings elsewhere, emphasizing the 25 schools used by Allegheny as a benchmark group. We then discuss criticisms of traditional approaches to ME in the pedagogy literature, and possible solutions based on the emergence in recent years of new scholarly interactions between theoretical and empirical literatures in economic and management science. The final sections present a ME curriculum grounded in those literatures: its basic approach and goals, and how it differs from the traditional approach pursued elsewhere (and formerly at Allegheny), including its experiential learning and liberal arts dimensions.

CURRICULAR APPROACHES IN “COMPARISON SCHOOLS”

Allegheny’s Department of Economics had for many years offered a single, applied-microeconomics type ME course. We were pushed toward rethinking ME because, like at many liberal arts colleges, our student and prospective student populations show considerable interest in business-related careers; facing a highly competitive admissions environment, the College administration was encouraging the department to find better ways of meeting that demand. Before deciding how to move beyond our traditional ME course, we surveyed course and program offerings related to ME at the 25 institutions used by Allegheny College as its comparison group. These are, like Allegheny, fairly small liberal arts schools, located in the northern swath of the country from Minnesota to Maine; they provide a spread around Allegheny in national rankings, both higher and lower, and are colleges with which we compete for students. We found that our benchmark schools use approaches falling mostly into four categories:

1. *Economics only*—a traditional, liberal arts major with at most one or two business or managerial courses as electives.
2. *Separate business and economics majors and departments*—a traditional, liberal arts economics program and a separate, full-function faculty and program devoted to business and management.
3. *A single department offering multiple degrees*—a mixed business and economics faculty offering degrees in economics, management, accounting, business or business administration, managerial or business economics, and other related areas.
4. *Business only*—a single department giving one or more business-related degrees.

The only comparison school that does not fit into this schema is St. Olaf, which offers a Management Studies “concentration” that can be taken with any major, drawing upon a wide range of related courses given by faculty in various departments.

Leaving aside St. Olaf, Table 1 shows the schools in Allegheny’s comparison group, in the order of their 2004 *U.S. News & World Report* ranking, and categorized by their curricular ME approach (also as of 2004) as described above. A look at the schools in the four categories

suggests that at the higher-ranked institutions, economics departments have mostly chosen not to offer business or management-related curricula (categories 1 and 2):

Place Table 1 about here

That impression is confirmed by the 70% correlation between the numerical categories (values one through four) and the schools' *U.S. News & World Report* rankings: the higher the ranking, the less likely to offer management-related studies as part of an economics curriculum *per se*. Possible explanations would have to go beyond this simple two-variable framework, and might look at both the kinds of students attending these institutions and their faculty and administration characteristics. We do not here attempt to sort out the interaction of these demand and supply side influences, which are beyond the scope of this paper.

In terms of the pedagogical approach to management-related curriculum itself, however, a basic dichotomy can be inferred from this data. In economics departments, if anything is offered at all, it is a single, fairly standard ME course. Detailed investigation confirms that this course is essentially applied microeconomics, with quantitatively oriented applications to demand forecasting, cost estimation, and related topics. Another approach is found in departments of business or mixed business and economics. Here, students have access to wide arrays of courses in business- and management-related fields. What both approaches typically have in common is that management and economics, as the latter is understood in a liberal arts context, remain intellectually, pedagogically, and programmatically separate.

This separation is precisely the one decried by the half-century of authors cited earlier. For most of those scholars, the problem being addressed has been business schools' failure to expose students to the core elements of the liberal arts: classic academic disciplines, integrative breadth, and interchange among perspectives. Our problem, like that of many in our comparison schools, is the reverse. Rather than how to integrate liberal arts education into business training, we are asking how to effectively prepare the very large group of our liberal arts students who will enter management-related careers after graduation. Is it possible to fulfill our mission as educators by readying these students for the managerial challenges ahead, from within our institution's core liberal arts tradition? And what might this bring to management education that has been lacking in the traditional business curriculum at other kinds of institutions?

Efforts to answer these questions are beginning to appear in Allegheny College's comparison group. A few of the schools in category three—single departments offering multiple degrees—have moved toward integrating economic and managerial curricula and breaking down the dichotomy described above. In these cases, the economics major retains a full range of introductory and intermediate theory and traditional “field” courses, while clusters of related courses essentially present managerial topics as an additional applied field within economics. Muhlenberg appears to have gone the furthest. Its economics majors are asked to choose a four-course “concentration,” and a management-related concentration could include a distinctive two course sequence in Management Theory (organizational and strategic issues in a broad, societal context) and Management Science (closer to the traditional, quantitative ME course). Ohio Wesleyan also allows a student majoring in economics to choose a management concentration, using a cluster of courses to satisfy elective requirements within the major; Wooster offers a very

similar approach with its major in Business Economics, and Union with a Managerial Economics major.

The pressure to transcend the traditional economics curriculum is not peculiar to liberal arts colleges *per se*, as similar initiatives are emerging at large research universities. Like the colleges in our category three, traditional economics departments at some universities with no business school have begun to offer business and management-related majors. Examples include UC-Santa Barbara, with majors in Business Economics and Business Economics with Accounting, and Rice University with an interdisciplinary major in Managerial Studies. Another model, similar to our category two colleges, exists at universities with both a business school and a separate economics department. Here, the business school—sometimes in cooperation with the economics department—offers its own economics major, with a heavy business and management flavor. The New York University Stern School of Business is a good example of this model.

Allegheny's Economics department came late to this effort. Prior to the current program, we—like the category one schools in our comparison group—offered a standard ME course within a traditional economics curriculum lacking a wide range of business related courses. We did not think that our comparative advantage would lie in attempting to provide such a range. Instead, the department began to explore creating a more focused core of management related courses, based on existing College and departmental strengths. We wanted to build upon the academic interests and strengths of Economics faculty, which in turn required a review of recent theoretical developments in managerial economics. We now consider some of those developments.

ALTERNATIVE THEORETICAL APPROACHES TO MANAGERIAL ECONOMICS

A review of the pedagogy literature confirms that others have been grappling with how to transcend the economics-management dichotomy and the limitations of the traditional ME course. Recently, ME has been criticized for being too abstract and focused on techniques: as little more than the standard intermediate microeconomics, with some flavor of regression analysis, forecasting, and linear programming. (Paradoxically, ME emerged as a distinctive course in the economics curriculum partly because intermediate microeconomics was perceived to be too abstract.) This variant of ME is often referred to as “Traditional Managerial Economics” (TME). For an excellent summary and discussion of this critique and the core topics covered in TME, see Anderson and Muraoka [1990]. TME has also been criticized for glossing over the increasing complexity of the environment in which firms operate [Ponssard and Tanguy, 1999, 170]. While recent research has explored many of the complexities surrounding the modern business environment, TME has failed to incorporate those complexities into its analytical framework.

To address this criticism, alternative pedagogies have been proposed. These newer approaches have been made possible by important new strands within economic theory, and specific proposals reflect various perceptions of how the goals of ME are interwoven with these strands. A key example is the set of incentive-theoretic approaches addressing agency costs [Jensen and Meckling, 1976] and transaction costs [Williamson, 1975]. For instance, Brickley et al. [1999,

9] contend that the primary goal of ME is to show how to use economic principles to “design organizations that motivate individuals to make choices that increase firm value.” They thus propose a pedagogy built around the concept of organizational architecture, while emphasizing the “interrelations and co-determination” of corporate policies such as human resources, marketing, accounting, and strategy [p.10]. In the same vein, Milgrom and Roberts [1992, 538-584] propose an approach that focuses on the choice of an efficient organizational form that addresses the problems of “asset specificity,” opportunistic behavior and “bounded rationality.” Recognizing that business organizations are “complex systems of mutually reinforcing parts,” they propose a managerial pedagogy that offers insights into how the various parts of an efficient organization fit together.

Another contribution using a similar framework is from Acs and Gerlowski [1999], who recommend an approach that perceives the firm not as a production unit, but as a “transacting and coordinating unit” [5]. They suggest that, rather than maintaining the current link between economics and the decision sciences, ME should forge “a much closer and more collaborative effort with management, including but not limited to, strategy, innovation and technology management, human resource management, and managerial finance” [7]. This approach is reminiscent of the one proposed by Ponsard and Tanguy [1999, 172], who view the “managerial economist” as someone that organizes an efficient coordination mechanism among the firm’s “experts.” Contending that the business environment can no longer be predicted with certainty, Ponsard and Tanguy [1999, 174] propose a new managerial economics that focuses on strategic analysis and game theory.

As Acs and Gerlowski rightly observe, the orientation and mission of an institution determine the nature of the managerial pedagogy that would work best for that institution. While recognizing the importance of incorporating these incentive-focused approaches, the faculty designing our ME curriculum wanted to center it around a related but distinct set of theoretical developments not yet addressed in the ME pedagogy literature. We describe these efforts and our particular liberal arts setting in the next section.

ECONOMICS AND MANAGERIAL ECONOMICS AT ALLEGHENY

In this section, we discuss pre- ME initiative economics at Allegheny, followed by the new program’s shaping influences and specifics along three dimensions: theoretical framework and course sequence; experiential learning thrust; and overarching liberal arts philosophy.

Before the expanded ME track, the Allegheny Economics major was, and in certain respects remains, quite standard in its structure and requirements. Students must complete introductory and intermediate micro- and macroeconomics; two lower and two upper level field courses; introductory econometrics plus an advanced or applied follow up; a field-based Junior seminar; and a Senior thesis. The department offers a series of four accounting courses, but these had never counted toward the requirements of the major.

ME was given as an upper level field course, a perfectly solid version of the traditional ME critiqued in the literature review earlier. The problem was not the course’s focus on quantitative

methods for demand forecasting, cost estimation, and the like. Its shortcoming was, rather, that the approach to this subject matter seemed abstract. The material was isolated from other course content, the higher level thinking and communication skills prized at Allegheny, and the College's emphasis on hands-on and experiential learning. The course did not address some of our graduates' real needs facing management-related careers, including familiarity with basic concepts used by working managers and awareness of major trends and controversies in the corporate world. Nor did the course do anything to connect with the treatments of globalization, ethics, and cultural diversity presented elsewhere in the College curriculum.

We set out to create an ME program that would build on departmental and College strengths to deepen and broaden our students' management education in the best liberal arts tradition, but in a format compact enough to fit easily within existing departmental and College structures.

Theoretical Framework and ME Course Sequence

Faculty within our department were interested in new approaches that increasingly bring together concerns from economics and management science. These recent theoretical developments shaped our ME program-building efforts by stimulating fruitful conversations within the department about how to teach management concepts that are rooted in economic theory. One faculty [Goldstein, 1997], working on various processes of corporate change, had been exploring the frameworks of evolutionary economics [Nelson and Winter, 1982] and organizational resources and capabilities [Wernerfelt, 1984; Teece et al., 1998]. Another [Nonnenmacher, 2001], studying business and regulatory history, was using the incentive-based framework of transaction cost economics [Williamson, 1975]. While incorporating the transaction cost framework, we chose to undergird our new ME curriculum with an emphasis on the interrelated theories of evolutionary economics, organizational resources and capabilities, strategy [Porter, 1996], and stakeholders of the firm [Freeman, 1984].

Using these approaches, we created an ME course sequence that encourages students to perceive firms as operating in a dynamic business environment: Managers must respond to an uncertain environment, where the range of possible actions is constrained by organizational path dependence, bounded rationality, and asymmetric information. In this setting, organizations compete and innovate on the basis of idiosyncratic capabilities or competencies. The ability to mobilize resources and routines in competitively adaptive ways has significant tacit qualities, and is embodied largely in social networks that knit together the organization's key stakeholder groups. Crafting and executing strategy thus requires attention to stakeholder contributions in defining the organization's best responses to external pressures and possibilities.

The ME sequence moves through increasingly complex applications of these core concepts. We designed it as an optional "track" integrated within the existing major, consisting of the following courses: introductory ME, advanced ME, and a dedicated Junior seminar. (One accounting course is also required.) Students who choose it can follow the ME track while simultaneously fulfilling their departmental major requirements; introductory ME serves as one of the lower level field courses, advanced ME as one of the upper level fields, and the ME Junior seminar as the required seminar. (Course outlines are contained in the Appendix.) We describe each of the core ME courses as follows:

Introductory ME

This course places the corporation and manager in historical, social, and institutional context. We use a publisher's online custom book facility to combine chapters from traditional "Business and Society" (first half) and "Strategic Management" (second half) texts, which relieves students of the need to purchase two books for one class. This combination allows us to place issues of ethics, corporate social responsibility, and strategic management within a common framework. Readings, case studies, and other exercises (see below) highlight problems of ethics and the exigencies and pitfalls of global competition. We encourage our students to view global competition as not only a process of configuring and coordinating value chains, but also of managing the political, social, and ethical dilemmas in the global marketplace. The syllabus adds classic readings from authors like Drucker, Alfred Chandler, Michael Porter, and Prahalad and Hamel, which along with the text begin to give students a working familiarity with the sources and language of crucial management concepts.

Advanced ME

The second in the series incorporates the major components of the traditional ME course, emphasizing the application of quantitative techniques. This enables us to expose students to what many outside of Allegheny will envision when thinking of "Managerial Economics." We can use a standard text covering important topics like demand and cost forecasting, linear programming, and other quantitative decision theory approaches. But given students' earlier experience in introductory ME, we are also able to employ these quantitative techniques in a more rounded context of managerial decision making, strengthened by substantial use of brief case studies that accompany the text, and other hands on methods.

The ME Junior Seminar

The seminar is an integrative capstone for Managerial track students, using in-depth case studies to encourage holistic application of tools from the ME courses and related fields and disciplines. Readings from scholarly journals are chosen to ensure that case analysis includes the following areas: ethics, knowledge management, globalization, technology management, and the overlaps and tensions between theories of the firm based on transaction costs versus evolutionary capabilities. In addressing the cases, students are challenged to bring to bear tools from finance, accounting, and statistics on the complexities and ambiguities of real strategic management problems. Each student generates a research topic and writes a substantial paper related to seminar case issues. One of the goals of the Junior seminar is to help the students identify potential areas for their Senior thesis.

A general advantage of approaching the ME curriculum this way is that it allows us to present a coherent framework that works with existing management instructional materials, while linking that framework explicitly to economic theory. A related advantage is that we can explore the similarities and tensions between the resources/capabilities and transaction cost/governance perspectives with students at the more advanced levels. [On the theoretical frameworks, see for

example Hodgson, 1998, and Williamson, 1999; on empirically testable propositions with links to managerial strategy see Delmas, 1999.]

Parallel to the core ME sequence, a number of related courses have been introduced as upper level electives, and heavily used by Managerial track students to satisfy field requirements. These have included business environmental management, entrepreneurship, and management of nonprofits. All but the first of these have been taught by retired executives with academic credentials; this approach to bridging classroom learning and professional experience is one among several employed in the program.

Experiential Learning

Allegheny College has been a leading practitioner of experiential learning techniques [Pope, 2000]. Experiential learning combines active student involvement beyond the traditional classroom with guided, theory-based reflection on that experience. The award-winning Allegheny College Center for Experiential Learning (ACCEL) coordinates a wide array of internship, shadowing, study abroad, travel seminar, and other programs. In addition, a variety of “civic engagement” initiatives in regional sustainable development, community service and service learning, and political participation regularly bring students into contact with practitioners and practical problems in the course of their studies.

If Drucker is right, then the work of managed organizations in meeting society’s needs and solving its problems should provide fertile ground for experiential learning in management. Economics faculty had earlier begun to avail themselves of the College’s connections and expertise in bringing experiential learning into departmental courses, and extending that practice was a natural path for the ME initiative. Some of the specifics are quite common to similar programs at other schools, while others leverage Allegheny capabilities in more distinctive ways.

Experiential learning is the context in which we view the emphasis on case studies throughout the ME curriculum. When appropriately presented by faculty, including use of assignments asking teams of students to wrestle with difficult organizational problems, cases provide a kind of simulated real world experience. They give the instructor a great deal of control over the issues to be explored, both by choosing from among the many excellent cases available on the market and by focusing discussion and assignments as desired. Other ways of bridging the classroom with real managerial experience include bringing in business and nonprofit executives as guest lecturers, and field trips to organizations whose practice can be tied to course issues.

Field trips to local enterprises represent a major component of our use of experiential learning in the ME courses. These trips are designed so students can witness the application of managerial concepts in real-world settings. Students are given a tour of the company, often ending with an interactive session with top management in the company’s conference room, where students hear managers discuss concepts such as lean manufacturing, core competencies, and the competitive pressures and ethical dilemmas faced in their industries. Sometimes these top managers from the local business community are also invited to visit the College to speak in ME classes.

Another set of experiential ME options involves creating connections between students and leading management practitioners, especially Allegheny College alumni, at national and international levels. Two regular offerings that bring such leaders to campus have been initiated under the ME program. One is the annual Executive Roundtable, a panel discussion around a topic chosen to reflect a current national or global managerial problem of interest to the campus and local business communities. Students can meet with the panelists either individually or during the speakers' visits to classes. The other on-campus offering is Executive Residencies, which each year bring working or retired executives with high-level leadership experience to the College for stays of several days to several weeks. The executive in residence offers a series of presentations covering both management and career mentoring topics within the individual's interests and expertise. Finally, internships are ME students' key form of off-campus connection with alumni and other practitioners. We strongly encourage our students to have an internship experience, both during the semesters and in the summers, and offer various kinds of support.

The ME program has also put distinctive Allegheny experiential learning expertise to work in developing service learning and community based research activities. Both involve students in collaborations with community partners—such as companies or business associations, school districts or other public institutions, and private not for profit service agencies—around real, partner-defined managerial tasks. College support infrastructure and a web of faculty-community relationships, both accumulated over many years, comprise an experiential learning capability easily adaptable to the goals of the ME curriculum. Some implementations have involved Managerial faculty whose ongoing research focuses on local businesses and organizations. Students have served as research assistants in these projects—for example, summer interns working under the director of ME to help local small businesses identify support resources for information technology and other needs—with results from the research being explicitly incorporated into case studies in the ME courses. Another type of community based learning involves student teams from current ME courses in research for local partners, such as introductory ME teams studying the benefits of charitable giving for a consortium of local manufacturers, and groups from the ME-based elective on business environmental management conducting market research for an area farmers network. A third model involves individual student service learning projects as course assignments, as incorporated in the ME-based elective on nonprofits management. A good number of our students have used all of these kinds of experiential learning as springboards to term papers, Junior seminar papers, and Senior theses.

These projects ask students to bring their management studies to bear on real world problems. They require integrative problem solving, since no such problems fit neatly into academic course or even discipline boundaries. Students find themselves engaging actively with external stakeholders in addressing the needs of our community, both taking guidance and giving leadership in situations where there may be differing perspectives, and responsible for communicating results clearly and constructively. In all of these respects, the experiential learning component is a key part of our strategy for liberal arts ME.

Liberal Arts Philosophy

Like the ME course curriculum, the complementary experiential learning component helps us operationalize a liberal arts approach to management studies. In pursuing this strategy, we join

with a small number of other liberal arts schools attempting to integrate ME within an economics program, rather than presenting ME as an isolated add-on within a traditional economics curriculum or offering an alternative course of study separate from economics. While our students do not have access to a comprehensive set of business course offerings, we believe that each dimension of our liberal arts approach brings value to the students' management education within its more focused menu.

A key dimension of liberal arts education identified in this paper's Introduction is its foundation in traditional disciplines providing core intellectual tools for understanding the world. Allegheny students must satisfy more than half of their overall College credit requirements outside the departments of their majors. Those following the Managerial track bring to it insights from not only a number of traditional economics courses, but also a broad range of coursework in other disciplines reflecting their own interests and abilities. Common ones are communications, foreign languages, psychology, computer science, international studies, and environmental science. Students have learned much about the rapidly changing world around them, and been trained to look at problems through the lenses of a variety of analytical frameworks. Discussion of technology, sustainability, managerial ethics, global competition, and many other critical managerial issues benefits greatly.

Another liberal arts dimension that adds value to ME at Allegheny is the emphasis on integrative thinking. From the seminars involving all first year students through the Senior thesis, students are encouraged to bring to bear what is relevant from across the disciplinary spectrum in ways uniquely tailored to the problems at hand. Many departments emphasize multidisciplinary throughout their curricula, and the ME program has deepened this practice in economics. The problem solving involved in managerial decision making is inherently complex and ambiguous and requires that we recognize the connections among ideas and techniques that have been encountered initially in different places. From the beginning in introductory ME, the combination of Business and Society with Strategic Management topics facilitates holistic thinking about complex problems with fuzzy boundaries, and this approach is featured right up through the Junior seminar with its integrative case design.

The third dimension of liberal arts education that is important for ME is the emphasis on principled debate aimed at understanding among differing perspectives. In its widely recognized support for civic engagement, the College encourages vigorous but respectful contact between contending ideas in many curricular and extra-curricular contexts. Allegheny's common curriculum for first and second year students introduces this emphasis on principled debate as students hone their writing and speaking skills. The ME curriculum continues developing these communication and collective work skills, which are critical to successful performance in managerial settings. In a broad array of team assignments, the program fosters a willingness to engage in give and take with others, and the capacity for leadership within a work group. For example, classroom presentation of case exercises is often structured in a debate format, with different teams arguing opposing approaches to resolving managerial dilemmas. Because key managerial problems in ethics and global competition revolve around the need to grasp and weigh competing perspectives, this aspect of liberal arts education is critical.

This multidimensional liberal arts approach has enabled the new ME program to incorporate the following goals:

1. Prepare our graduates to understand and act within a rapidly changing managerial environment. Technological and organizational change is so rapid and unrelenting that narrow skills quickly become obsolete. Far more valuable is broad knowledge about the global processes of economic, cultural, and governmental change—along with basic principles that can be applied to understanding those dynamics. Allegheny ME students graduate not as IT, marketing, or finance specialists, but as critical thinkers able to draw upon basic principles from management, economics and beyond in solving whatever problems they face.
2. Develop our students' understanding of the forces shaping the opportunities and problems facing management in a global economy. Specific managerial problems always reflect underlying economic, political, and cultural dynamics, and solutions to those problems will best be achieved by managers whose education has encompassed the study of those broad forces.
3. Equip our students with the historical, institutional, and philosophical tools they need to act ethically as managers. The curriculum must make students aware of current debates regarding the roles and responsibilities of business and other managed institutions within the broader society, and of managers within those organizations: Do the ethical requirements of business go beyond legal compliance? What principles guide action when legal and cultural standards differ across countries? How should ethical accountability for nonprofit managers be defined and enforced? What incentive and governance structures can best encourage ethical behavior within various kinds of organizations? These and related questions are raised throughout the ME curriculum, not sequestered in isolated courses, and students are encouraged to utilize tools and ideas from many disciplines in answering them.

Here we see the outlines of what a liberal arts approach can mean for management education. Fulfilling this promise will be the ME program's task in the future. In turn, demonstrating that management and liberal arts pedagogies belong together will be key to establishing the kind of institutional fit that will guarantee the program's place at Allegheny College. We conclude by considering some factors likely to govern this interaction.

INSTITUTIONAL IMPLICATIONS AND THE FUTURE

A key indicator of the program's short term institutional success is its impact on Admissions. Business and economics have long been among the most-reported interest areas for students applying to Allegheny. Before expansion of the ME program, prospective students interested in business and economics, once admitted, enrolled at Allegheny at a far lower rate than for other high-interest areas (*e.g.*, biology and medicine). Since the new program's initiation in 2001, the enrollment rate for business and economics-focused prospective students has risen steadily to about the all-College average—still less than the rate for admittees interested in biology and medicine, but by a much smaller and shrinking differential.

One aspect of the longer term fit with the College's liberal arts mission is the ME program's effect on and role within the Department of Economics. Since the new program came on line, the number of graduating Economics majors has risen each year (from the mid-thirties to the mid-fifties now, respectively nine and thirteen percent of each graduating Allegheny class). Meanwhile, the share of majors following the ME track has increased from under a third to just over half. Together, these data along with considerable anecdotal evidence suggest that the transformation of the ME program has helped make the Economics major more attractive, and that the ME track's growth has come not primarily by cannibalizing traditional departmental offerings but from expanded enrollment. This is important from the College's and department's points of view, because the goal is to complement but not supplant traditional economics at Allegheny.

The program has enabled the department to attract significant new resources within the College budgeting process, and at the same time Allegheny has found the growing ME program to be a powerful development tool. The department was allowed to add a faculty line at the program's inception, and we hired a junior faculty member away from another institution. He brought to the ME program an active research and teaching program in technology management [Onyeiwu, 2003], and has taken on program leadership as the department had hoped. The College, meanwhile, received financial support from an alumnus donor for an interactive, online learning lab, explicitly earmarked for the Department of Economics and tied to the new ME program. As the program has matured, alumni involved with its activities have provided a growing stream of contributions to the College endowment. This developing network of alumni committed to ME has paid handsome dividends for our students in the form of facilities, mentoring relationships, and internship and career opportunities.

The department has also been able to tap this network to assist directly in governance of the ME program. We have established a Board of Visitors comprised of about a dozen top executives, mostly Allegheny alumni, primarily from business but also representing nonprofits and business education. Members serve for three years, with an annual meeting on the day of the Executive Roundtable. By virtue of their experience and contact with current issues in management and management education, Board members have assumed a vital role in shaping and strengthening the program.

The growth in numbers of economics majors and ME track selectors indicates a high degree of student interest, at least, and possibly satisfaction. Although completion of the ME track is marked simply by receipt of a certificate, with only "Economics" appearing on the student's transcript itself, many students signal the importance they attach to the program by listing "Managerial Economics" as their major on their resumes. The heavily enrolled introduction to ME course has attracted a growing number of nonmajors, and we have noted that economics minors who have taken one or more ME courses often refer to "Managerial Economics" as their minor. For nonmajors headed for careers in arts or nonprofits management, biotechnology, business writing, communications, information technology, and other fields, the ME program seems to be fulfilling an important role.

A rigorous assessment of the ME program's success in meeting its pedagogical goals is underway. Program faculty have put in place two kinds of survey instruments to create a

database for assessing this over time: one measuring students' mastery of core concepts as they move through the program, and another eliciting graduates' evaluation of its effectiveness from the perspective of a few years in the workforce. While it is too early for analysis of the data being generated, observation suggests that the program's curricular core seems to be achieving its goal of integrating ME into a liberal arts economics major. ME track students are moving through the major alongside their non-ME peers, while focusing in areas of relevance to their managerial career aspirations. Faculty teaching the ME courses are finding the cross-fertilization between economics and management issues to be productive with respect to their own pedagogy and research.

Allegheny College's Managerial Economics program is an active work in progress. We have designed it according to the basic pedagogical principles shared by our Department and College. The goal is a program that is both distinctive and academically strong, relative to how other institutions approach the discipline. We have pursued that goal by building upon new theoretical developments, Allegheny's experiential learning capabilities, and an application of liberal arts fundamentals to a focused ME curriculum. The reactions of internal and external stakeholders, including readers of this paper, will tell us over time how successful the effort has been.

Table 1: Management at Allegheny College's Comparison Schools

<i>School</i>	<i>Curriculum Category</i>	<i>National Ranking</i>
Hamilton	1	21
Bates	1	23
Bucknell	2	27
Kenyon	1	30
Connecticut College	1	34
Union	3	37
Franklin & Marshall	2	38
Dickinson	2	42
Gettysburg	2	45
Denison	1	49
Lawrence University	1	52
Wooster	3	59
Wheaton (Mass.)	1	63
Hobart & William Smith	1	70
Muhlenberg	3	70
Albion	4	85
Hope	3	91
Washington & Jefferson	3	91
Ohio Wesleyan	3	97
Wittenberg	2	97
Juniata	3	106
Hiram	3	111
Westminster	3	111
Hartwick	4	162

Curriculum categories: 1) economics only; 2) separate business and economics; 3) single mixed department, multiple degrees; 4) business only.

Note: Rankings are from 2004 *US News & World Report*.

Categories – rankings correlation coefficient: .70

REFERENCES

- Acs, Z.J., and D.A. Gerlowski. "Teaching Managerial Economics," *Financial Practice and Education*, 9 (No.2, 1999), 125-31.
- Anderson, C.R., and D.D. Muruoka. "Survey of Managerial Economics Textbooks," *The Journal of Economic Education*, 21 (No.1, 1990), 79-91.
- Bobkko, P., and M.J. Tejada. "Liberal Arts and Management Education: Re-emphasizing the Link for the 21st Century," *Journal of Business Education*, 1 (Fall, 2000), 1-10.
- Brickley, J.A., C.W. Smith and J.L. Zimmerman. "Teaching the Economics of Organizations," *Financial Practice and Education* (Fall/Winter, 1999), 111-115.
- Chandler, A. "Organizational Capabilities and the Economic History of the Industrial Enterprise," *Journal of Economic Perspectives*, 6 (1992), 79-100.
- Chew, E.B., and C. McInnis-Bowers. "Blending Liberal Arts and Business Education," *Liberal Education* (Winter, 2004), 56-63.
- Delmas, M. "Exposing strategic assets to create new competencies: The case of technological acquisition in the waste management industry in Europe and North America," *Industrial and Corporate Change*, 8 (No.4, 1999), 635-672.
- Drucker, P. "Management's New Paradigms," *Forbes*, 162 (No.7, October 5, 1998), 152.
- Freeman, R.E. *Strategic Management: A Stakeholder Approach*, Pitman, Boston, (1984).
- Glyer, D., and D.L. Weeks. *The Liberal Arts in Higher Education*, University Press of America, New York, (1998).
- Goldstein, D. "Clashing Paradigms? Total Quality, Financial Restructuring, and Theories of the Firm," *Industrial and Corporate Change*, 6 (No.3, 1997), 665-700.
- Gordon, R., and J. Howell. *Higher Education for Business*, Columbia University Press, New York, (1959).
- Hodgson, G.M. "Competence and Contract in the Theory of the Firm," *Journal of Economic Behavior and Organization*, 35 (No.2, 1998), 179-202.
- Jensen, M., and W. Meckling. "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," *Journal of Financial Economics*, 3 (1976), 305-360.
- Milgrom, P., and J. Roberts. *Economics, Organization & Management*, Prentice Hall, Englewood Cliffs, NJ, (1992).

- Nelson, R., and S. Winter. *An Evolutionary Theory of Economic Change*, Belknap Press, Cambridge, MA, (1982).
- Nonnenmacher, T. "State Promotion and Regulation of the Telegraph Industry, 1845-1860," *The Journal of Economic History*, 61 (2001), 19-36.
- Onyeiwu, S. "Some Determinants of Core Competencies: Evidence from a Binary-Logit Analysis," *Technology Analysis and Strategic Management*, 15 (No.1, 2003), 41-61.
- Pierson, F., and others. *The Education of American Businessmen: A Study of University-College Programs in Business Administration*, McGraw-Hill, New York, (1959).
- Ponssard, J., and H. Tanguy. "The Future of Managerial Economics," In A. Kirkman and L. Gerard-Varet (Eds.), *Economics Beyond the Millennium*, Oxford University Press, Oxford, (1999).
- Pope, L. *Colleges That Change Lives*, Penguin USA, New York, (2000).
- Porter, M.E. "What is Strategy?" *Harvard Business Review*, 74 (No.6, 1996), 61-79.
- Teece D., G. Pisano, and A. Schuen. "Dynamic Capabilities and Strategic Management," *Strategic Management Journal*, 18 (1998), 509-530.
- Wernerfelt, B. "A Resource-Based View of the Firm," *Strategic Management Journal*, 5 (1984), 171-180.
- Williamson, O.E. *Markets and Hierarchies*, Free Press, New York, (1975).
- Williamson, O.E. "Strategy research: governance and competence perspectives," *Strategic Management Journal*, 20 (No.12, 1999), 1087-1109.

Appendix: Managerial Economics Course Outlines
Economics 240 – Introduction to Managerial Economics

Materials

A combined custom text from Primis Online, McGraw-Hill: chapters from Lawrence *et al.*, *Business & Society* (11th Edition), and Thompson *et al.*, *Crafting & Executing Strategy* (14th Edition). Also a reading package of classic articles on management and strategic behavior.

Schedule of topics (recently used cases are shown where inserted in the schedule)

1. *The Corporation & its Stakeholders*: The Stakeholder Concept, Primary and Secondary Stakeholders, Stakeholder Coalitions, The New Social Contract.
2. *Corporate Social Responsibility (CSR)*: CSR and Corporate Power, the Iron Law of Responsibility, the Charity and Stewardship Principles, CRS around the World.
3. *Ethical Dilemmas in Business*: Ethics and Ethical Principles, Ethical Relativism, Business Ethics, Functional Area Ethics, Ethical Egoism.
4. *Corporate Governance*: Shareholders and Managers, Agency Theory, Ownership versus Stakeholder Views of the Firm, Incentives and Compensation Systems
Case: The Collapse of Enron
5. *Business and Public Policy*: Public Policy and Common Law, Social Welfare Policies, Government Regulation of Business, Costs of Regulation, Deregulation.
6. *Antitrust, Mergers, and Global Competition*: The Dilemma of Corporate Power, Multinational Corporations, Network Capitalism, Antitrust Laws, Predatory Pricing, Global Competition and Antitrust Policy.
7. *Global Social Issues for a New Century*: Globalization, Global Social Issues, Anti-Americanism, Monoculturalism, Afluenza, Global Corporate Citizenship.
Case: Nike's Dispute With the University of Oregon
8. *Establishing Company Direction*: Strategic Vision, Mission Statement, Strategic Intent, Strategy-Making Pyramid, Corporate Strategy, Business Strategy, Functional Strategy, Operating Strategy.
9. *Industry and Competitive Analysis*: The Five Forces of Competition, Strategic Implications of the Forces of Competition, Factors for Competitive Success.
10. *Evaluating Company Resources and Competitive Capabilities*: Strengths and Resource Capabilities, Weaknesses and Resource Deficiencies, Core Competencies, Market Opportunities, SWOT Analysis, Value Chain, Benchmarking, Strategic Cost Analysis, Competitive Strength Assessments.
11. *Strategy and Competitive Advantage*: The Five Generic Competitive Strategies.
Case: Netflix and the Evolving Movie Industry
12. *Strategies for Competing In Globalizing Markets*: Why Companies Expand into Foreign Markets, Multi-Country Competition or Global Competition, Strategic Options for Entering Foreign Markets, Transferring Competencies and Capabilities Across Borders.
13. *Strategy and Competitive Advantage in Diversified Companies*: Rationale for Diversification, Related and Unrelated Diversification, Strategic Fit, Economies of Scope, Strategies for Entering New Businesses.
Case: FedEx: IT and Organizaion in Global Supply Chain Management

Economics 440 – Advanced Managerial Economics

Materials

Edwin Mansfield, et al. *Managerial Economics*. Also *Study Guide and Case Book* that comes with the book.

Schedule of topics

1. Optimization: Derivatives, Partial Differentiation and the Maximization of Multivariable Functions, Constrained Optimization, Lagrangian Multipliers, Economic Applications.
2. Regression Analysis: Simple Regression Model, Method of Least Squares, Coefficient of Determination, Multiple Regression, Multicollinearity, Hypothesis Testing, Software Packages and Computer Printouts, Interpreting the Computer Printout.
3. Demand and Forecasting: Market Demand Curve, Price Elasticity of Demand, Income, Advertising, Cross Elasticities of Demand, The Constant Elasticity Demand Curve.
4. Business Forecasting: Estimation of Linear and Nonlinear Trends, Seasonal and Cyclical Variations, Elementary Forecasting Techniques, Econometric Models.
5. Production Theory: The Production Function, Diminishing Marginal Returns, Optimal Combination of Inputs, Returns to Scale, Output Elasticity, Estimation of Production Functions.
6. Cost Analysis: Opportunity Costs, Short-Run and Long-Run Cost Functions, Economies of Scale, Estimation of Cost Functions, Economies Of Scope, Break-Even Analysis.
7. Linear Programming: Production Planning, The Dual Problem and Shadow Prices, Slack Variables, The LINDO Software, Practical Exercises and Applications.
8. Pricing Techniques: Cost-Plus Pricing, Pricing of Joint Products, Price Discrimination, Transfer Pricing

Case Studies: Hewlett-Packard's Strategy for Beating Japanese Competitors, Sales Forecasting at K.M. Westelle & Associates, Inc., Production Functions and Cost Applications in Oil Pipelines, A Managerial Application of Cost Functions by a Railway, Managerial Decision-Making at the Carriage House Inn, and Harley-Davidson's Competition with the Japanese.

Economics 588 – Topics in Managerial Economics: Junior Seminar

Schedule of recently used readings

1. "What is Strategy?" Michael E. Porter.
2. "Competing Across Locations," Michael E. Porter.
3. "Corporate Diversification, Coherence and Economic Performance," Lucia Piscitello.
4. "What's Your Strategy for Managing Knowledge?" Morten T. Hansen, et al.
5. "Strategic Planning as if Ethics Mattered," Larue T. Hosmer.
6. "Markets for Technology and their Implications for Corporate Strategy," Ashish Arora, et al.
7. "Corporate Strategy and the Management of Innovation and Technology," Jens F. Christensen.
8. "Gales of Creative Destruction and the Opportunistic Incumbent: The Case of Electric Vehicles in California," Romano Dyerson & Alan Pilkington.
9. "The Global Integration of Business Functions: A Study of Multinational Businesses in Integrated Global Industries," K. Kim, et al.

Field Trip to ChipBlaster, Inc.

Case and Research Presentations.