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THE PERCEIVED USEFULNESS OF COURSES
TAKEN BY BACCALAUREATE BUILDING CONSTRUCTION
MANAGEMENT ALUMNI FROM MICHIGAN STATE UNIVERSITY

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By

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ABSTRACT

THE PERCEIVED USEFULNESS OF COURSES TAKEN BY BACCALAUREATE BUILDING CONSTRUCTION MANAGEMENT ALUMNI FROM MICHIGAN STATE UNIVERSITY

By

Marcus Garvey Metoyer, Jr.

The construction industry is undergoing rapid change and education must keep pace. This study is directed at determining the perceptions of the 1980-92 baccalaureate degree recipients of the Building Construction Management program, Department of Agricultural Engineering, at Michigan State University with regard to the value of specific courses within their construction management curriculum. A demographic profile of respondents is also contained.

A four page questionnaire was mailed to 596 persons who fit the biography. After deleting bad addresses the population contained 454 potential respondents. Data analysis was accomplished with SPSS/PC+ V 5.0 using the T-Test subcommand after splitting the population into two groups: 1980-86 and 1987-92 subpopulations. The perceptions of these subpopulations were compared using the t-statistic for differences in means for independent samples.

The researcher found no significant differences with respect to the course grouping studied. However, two individual courses were found to have significantly different means which indicated a significant difference in alumni opinions.

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ABBREVIATIONS

ABET	Accreditation Board for Engineering and Technology
ACCE	American Council For Construction Education
AGC	Associated General Contractors
AIC	American Institute of Constructors
ASC	Associated Schools In Construction
BCM	Building Construction Management
CAD	Computer-Aided Design
DOS	Disk Operating System
HVAC	Heating, Ventilating, and Air Conditioning
SPSS/PC+	Statistical Package for the Social Sciences - Personal Computer Version 5.0

CHAPTER 1

INTRODUCTION

The first shelters are thought to have been constructed by humans when they piled rocks at the entrances to caves. So, for thousands of years mankind has sought shelter from the elements and predatory animals.

Although shelter remains the primary justification for the construction of buildings, artistic, social, vocational, and personal needs and desires must also be dealt with. To meet these needs the efforts of many people must be employed including artists, architects, trades people, engineers, managers, governments, and contractors.

For many years, colleges and universities have graduated architects and engineers as building design professionals. Many of these professionals entered construction without the benefit of courses in scheduling, productivity, business, management, law, and construction contracts. There developed organizations that dignified design as a profession, while at the same time largely ignoring business and political concerns. Architects viewed construction as the work and its supervision left to constructors who were commonly craftsmen who had become contractors through hard work and enterprise. Certainly

construction was not a subject for university education (Ledbetter, 1984). Since there were so few good texts on these subjects, technical and management knowledge was passed on to successors primarily through trade practices or by 'word of mouth' (Oglesby, 1990).

By the 1920's builders and general contractors were becoming increasingly dissatisfied with the content of civil engineering and architectural curricula as preparation for building construction (Dietz and Litle, 1976).

According to Haltenhoff (1986),

> "The engineer is no longer educated to hit the ground running into an entry level position in the construction industry. To better serve the traditional needs of the industry, two year and four year construction technology programs were developed. The curriculum emphasis has generally been toward the general contractor as the employer." (p. 153)

Oglesby (1990) said,

> "Until 40 years ago, the managers directing the actual on-site construction were predominantly ambitious, hard driving craftsmen who had come up through the trades. Their knowledge was gained by 'doing'. There was little university or industry interest in college-level education for construction managers, nor technical literature nor research to support it. Since that time, some 150 college-level educational programs for construction have evolved." (p. 4)

There is, and has been a large degree of mistrust between design professionals, architects and engineers, and the contractors. Contractors view engineers and architects as elitists who felt themselves to be too genteel to work with their hands or push others to do so, or to be concerned with money, business, and sometimes political matters, which

were the contractor's principal concerns (Oglesby, 1990). Many engineers and architects feel that construction is best learned on the job and thus not a valid subject for university education (Ledbetter, 1984).

As a result of this mistrust, varying needs of owners, design professionals, and contractors, construction education is found in two forms: engineering-based and non-engineering-based curricula.

Statement Of The Problem

The perceived usefulness of courses taken by baccalaureate Building Construction Management alumni from Michigan State University. What construction related duties are these graduates currently performing? In short, how well has MSU served this group of graduates in preparation for construction careers?

Logic suggests that B.C.M. graduates of Michigan State University intend to embark on a building construction management career. There are, however, many other employment alternatives which fall into construction related and non-construction related careers.

The problem facing the Building Construction Management curriculum at Michigan State University is the need to provide undergraduates with a common body of construction management knowledge which will prepare students for the many and varied positions which are and will be within the construction industry.

Solutions cannot be found in the nation's many and varied business schools. Although these schools do an excellent job educating entry level employees for the manufacturing industry, banking, international retail and financial corporations, and the entrepreneurial path, regular business courses are not geared to the diverse construction industry.

According to Warszawski (1972), these schools equip their graduates with excellent general business knowledge; however, these graduates are not prepared to cope with the special problems of construction projects, which are characterized by several distinctive features. These features, which follow, set the construction industry apart from its conventional business counterparts. As such construction projects:

1. are not based on mass production, but vary almost individually in nature, environment, and the labor force employed,
2. are realized in situ, i.e., the usual separation of plant and consumer market is absent,
3. have a life span of 50-100 years, which may be regarded as permanent for all practical purposes. No one person expects to replace a construction project in his or her lifetime,
4. require considerable physical effort and is usually carried out under fairly rigorous conditions, and

5. are completed by a very wide range of independent, skilled trades, many of them employed on a special contract basis.

In 1972 Warszawski stated,

> "The difficulties inherent in realization of construction projects require a comprehensive training program for potential construction managers. The program should satisfy the needs of civil engineers without managerial education and of managers who are unfamiliar with the distinctive nature of construction. It should deal with all aspects of construction management and may be supplemented by additional subjects in the field of economics, management or building technology, depending upon the framework of studies and the background of participants." (p. 255)

Purpose Of The Study

This study was conducted primarily to answer determine the perceived usefulness of courses taken by baccalaureate Building Construction Management alumni from Michigan State University. Are graduates obtaining construction related jobs? What are the perceptions of the B.C.M. graduates regarding their curriculum?

A graduate follow-up study is a tool which can answer these questions as well as others which are pertinent to the decision making process of B.C.M. curriculum evaluators.

Gagné (1969) said,

> "What one really wants to know about a given curriculum is whether it works. In more precise terms, one is interested in finding out whether learning is promoted by the presentation of particular content in a particular sequence." (p. 29).

> "There is no shortcut method. One must actually put the curriculum into use, and then measure the results in terms of student achievement, or some other specified criterion." (p. 33).

The construction industry needs changes in educational patterns which will provide better educated people for the rapidly changing business climate in general, and the construction business in particular.

Hypotheses

Perceived satisfaction levels of 1980-1986 graduates of the Building Construction Management curriculum at Michigan State University are the same as perceived satisfaction levels of 1987-1992 graduates of the Building Construction Management curriculum at Michigan State University.

Course groupings are the same as those used by Shofoluwe (1990) and Stroup (1993):

1. General education
2. Construction design and engineering
3. Business and management
4. Construction technology
5. Management of construction operations

Hypothesis #1:

There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of

General Education courses they took while attending Michigan State University.

Hypothesis #2:

There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of Construction Design courses they took while attending Michigan State University.

Hypothesis #3:

There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of Business and Management courses they took while attending Michigan State University.

Hypothesis #4:

There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of Construction Technology courses they took while attending Michigan State University.

Hypothesis #5:

There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of Management of Construction Operations courses they took while attending Michigan State University.

course category.

Justification Of The Study

Any serious effort to maintain quality undergraduate programs must include the experience and opinions of their graduates, so researchers should be open to any kind of data that could contribute to this undertaking (Bornstein, 1978).

The information provided by this study will provide a profile of recent Building Construction Management graduates of Michigan State University. This graduate profile will include gender proportions, work in which the graduates are currently involved, graduate school participation, length of time necessary to complete the B.C.M. degree, most valuable courses from the student's perspective, how first jobs were located, what B.C.M. does well, and suggestions for improvement.

Also, this study will attempt to determine the perceived usefulness of courses taken by baccalaureate Building Construction Management alumni of Michigan State University.

Limitations Of The Study

The following factors were considered to be limitations of the study:

1. A large number of graduates moved since graduation without notifying the alumni office of their new address. More often than not, the postal service forwarding orders had expired causing the mailings to this group to be returned as undeliverable. The result was a lower than desired delivery rate and possibly bias.
2. The findings of the study can be generalized to the B.C.M. program during the years of 1980-92 only.
3. The study was limited to 1980-92 B.C.M. graduates of Michigan State University who responded to the survey. Although the results may be similar for other Building Construction Management programs at other colleges and universities, the results of this study cannot be generalized to other populations.
4. Longer elapsed time since graduation will influence the ability of graduates to recall,
   a. the courses they took,
   b. first job starting salary,
   c. program advantages,
   e. and general perceptions of the program.
5. Work experience of graduates, before and after

graduation, may influence B.C.M. program perceptions in a way which cannot be considered by this study.

Methodology

The population is the Winter Term 1980 through Summer Term 1992 Building Construction Management graduates from Michigan State University. Fall semester 1992 graduates were not included. This population was divided into two subpopulations--1980-86 and 1987-92--which will be compared. Until 1986 computers were used very little in smaller construction related companies. The reason the population was subdivided in this manner is that of splitting the population into subpopulations based upon computer usage patterns in the construction industry.

Although a number of pre-1980 B.C.M. graduates responded, they were not considered. They were a part of the mailings due to errors in the Alumni Office mailing list. Post Summer Term 1992 graduates were not selected due to their short work experience since graduation and the confounding of data because Michigan State University changed from quarters to semesters in the fall of 1992.

Assumptions

The investigator made the following assumptions in this study:

1. Subjects would respond to the survey.

2. Subjects would respond honestly to the survey.
3. Questionnaires would find their way to the addressee unless they were returned by the U.S. Postal Service. None were considered lost, stolen, delivered to the wrong address, or delivered to the correct address but not to the addressee.

Definitions of Terms

Architect: Archi = Chief, plus Tekton = worker. Defined by the Roman architect Vitruvius "Let him be educated, skillful with pencil, instructed in geometry, know much about history, have followed the philosophers with attention, understand music, have some knowledge of medicine, know the options of jurists and be acquainted with astronomy and the theory of the heavens" (Peckham, 1975).

The more modern definition is one who devises, plans, or creates in the planning and design phase of a construction project.

Building Construction Management Program: a baccalaureate, master's, or doctorate level educational program designed to provide the student with a background in the economic, social, environmental, technical, and managerial aspects of residential and commercial building construction. Generally considered to be a nonengineering-based program.

Construction: the act of producing a structural entity from engineering or architectural design, where such entity is fixed in location and is of sufficient magnitude to require organization of men (and/or women) and equipment for its assembly at the final site (Young & Marchman, p9, 1977).

Construction Management: the process of marshalling money, men (and/or women), materials and equipment against

time, weather and human nature to accomplish the act of construction (Young & Marchman, p. 9, 1977).

Construction Process: the integration of a series of essential operations to provide a functioning physical facility which will serve societal needs.

Constructor: responsible master of that discipline which comprises the whole of the construction process as well as the essential parts thereof, processing such skills founded on systematic knowledge acquired through prescribed education and refined by experience, or earned equivalently as a recognized practitioner, who initiates, develops, produces, delivers and services in whole or essential part construction works at prices, times and standards of quality which assure advantage to clients and society as a whole (Young & Marchman, p.9, 1977).

Curriculum: a sequence of content units arranged in such a way that the learning of each unit may be accomplished as a single act provided the capabilities described by specific prior units have already been learned by the learner (Gagné, 1967).

Education: the foundation upon which values, knowledge, and rationale are explored and established. Education is designed to enhance the individuals capacity for rational thinking.

Engineering: the art and science concerned with the practical application of scientific knowledge in the

planning, design and operational phases of construction.

Formative Evaluation: evaluation used to improve a curriculum during its development. It takes place at an intermediate stage of curriculum development and permits intelligent changes to be made in the curriculum.

Project Management: the art and science of causing various operations in the construction process to integrate in a manner to meet the budget/time/quality requirements of the owner.

Summative Evaluation: final evaluation of teaching instruction. Sometimes called an over-all or terminal evaluation.

Training: the process of providing specific skills necessary to function effectively in a highly technical environment. Training prepares individuals for specific tasks and simulates a work environment. Unlike education, training is intended for immediate utilization.

Overview Of The Study

Chapter 1 contains the introduction, statement of the problem, purpose of the study, hypotheses, justification of the study, limitations of the study, methodology, design and instrumentation, assumptions, definitions of terms, and this overview of the study.

Chapter 2 contains a review of the literature including, undergraduate curricula, graduate curricula, engineering-based curricula, non-engineering-based curricula, evaluation, research, continuing (in-service) education, and what's ahead for construction education.

Chapter 3 discusses research methodology which includes the population and sample, instrumentation, pilot study, collection of data, data analysis, hypotheses analysis, limitations of methodology, and summary.

Chapter 4 presents and analyzes the data complete with alumni profile, number of respondents, gender, age, first job salary.

Chapter 5 includes findings, discussion, conclusions, limitations of the study, and recommendations for future research.

CHAPTER 2

Review Of The Literature

The review of literature was conducted by using the library facilities and computer systems at Michigan State University, University of Michigan, and Western Michigan University.

The following electronic media and systems were used to find access to bibliographic information including:

- ERIC: contains reference information on numerous journal articles from more than 750 journals. Cited in the Current Index to Journals in Education and other documents cited in the Resources In Education, related to education.
- ABI/INFORM: consists of abstracts and indices to articles contained in over 700 business journals.
- INFOTRAC: an automated index to popular magazines, business related journals, and national newspapers for the current year plus the three previous years.

- LCAT: a Michigan State University Libraries Catalog
- PSYCH: PsycINFO (Psychology Literature)
- ACAD: Expanded Academic Index (Journal Article Index)
- MCAT: a University of Michigan computer cataloging system
- UMI Dissertation Abstracts (Hard Copies): index to dissertations for which degrees were awarded from universities in the United States.

In addition, the Comprehensive Dissertation Index and the American Doctoral Dissertation Index were searched for related studies. In several cases, where information was not available at any of the libraries, the inter-library loan service was utilized to obtain the necessary information.

Introduction

There appears to be no clearly defined time when construction education originated. The first degree granting programs known to Dietz and Litle (1976) were established at Massachusetts Institute of Technology (MIT), Union, and Yale in 1926 through support of the Louis J. and Mary E. Horowitz Foundation, instituted by the chairman of the Thomas-Starrett Construction Company (Dietz and Litle, 1976).

With the great Depression of the 1930's, university enrollment in most university programs decreased causing many college programs, including construction programs, to be either eliminated or merged with older more established programs, such as civil engineering or architecture. (Dietz and Litle, 1976).

Following the Depression construction saw a revival, only to be met by another downturn as a result of the onset of World War II. After World War II, the establishment of courses and departments of building construction began to accelerate, and during the 1950's and 1960's, such curricula became quite widespread (Dietz and Litle, 1976).

Due to the different backgrounds from which college and university construction programs have arisen, i.e. civil engineering and architecture, and the regional differences of construction practices, construction curricula are far from uniform from one college or university to another. There is no industry held consensus as to what construction programs should teach.

Present college level construction education programs are engineering-based or technology-based (nonengineering-based). They are more broadly classified as either theoretical or practical, respectively, in their approach to student education. The theoretical, engineering-based curricula deal mainly with math and science while the others concern themselves primarily with general education, management, and technology. One is accredited by the

Accreditation Board for Engineering and Technology (ABET) while the other by the American Council for Construction Education (ACCE).

Undergraduate Curricula

Undergraduate curricula are basically split between engineering-based and nonengineering-based with hard core supporters in each. They both begin with emphasis on fundamental science and mathematics in the first year, but the depth of focus in these areas varies. Beyond these basic courses are various courses in mechanics, structures, materials, methods, and management. Finally, come a series of specialty courses, varying from institution to institution, in such areas as geology, soil mechanics, acoustics, accounting, illumination, thermal systems, history of construction, industrial relations, business law, architectural appreciation, real estate development, surveying, engineering graphics, engineering computations using the computer, and many others (Dietz and Litle, 1976).

Graduate Curricula

Graduate degrees will enhance the prestige of construction, enabling the industry over time to attract and retain the high quality of project and construction management personnel it needs, however, there is no procedure to standardize graduate programs (Business Roundtable, 1988b).

According to Dietz and Litle (1976),

> "There is no unanimity respecting the desirability of graduate work in construction. Some educators and construction men maintain that 4 years is enough to give a student all the basic work that he needs, and that it is then time for him to get onto the job. Other educators and construction men believe that construction has reached such a complex and advanced stage that graduate work, especially if based on strong engineering or similar program, is highly desirable."

A few institutions offer masters degrees while still fewer offer masters and doctorate degrees in construction. Graduate degrees in construction are generally designed to place emphasis on decision theory and processes at the job superintendent and project manager level, or for decisions respecting use of equipment, procurement, and cash flow. (Dietz and Litle, 1976).

Unfortunately, the answer to the management needs of the construction industry are not readily found in abundantly available MBA programs at universities and colleges. Those familiar with the construction industry realize that the management of construction does not fit the mold of general industry management. MBA programs are not oriented toward the management of construction operations, but rather toward the management of business, commercial operations, and manufacturing (Haltenhoff, 1986).

PROGRAM BASIS

Engineering based construction programs deal with the planning and design of facilities and produces construction documents which include plans and specifications. These

necessary precursors to the actual construction itself, usually by a contractor, are carried out by architects and engineers whose professions are of long standing. The American Society of Civil Engineers began in 1852 and the American Institute of Architects began in 1857. Licensing for professional engineers and architects began about 60 years ago. To qualify, candidates usually have to pass examinations that emphasize competence in design (Oglesby 1982).

Many civil engineering programs include a construction option or specialty. There also exist architectural engineering programs which stress structural engineering. Either of these eliminate some of the more advanced engineering courses and substitute construction related courses while maintaining the ability of the graduate to obtain professional registration if he/she desires. Professor Oglesby, Stanford University, made the point that for graduates who discovered that they were not suited to the long hours, travel, and sometimes dirty working conditions should find the return route to ordinary civil engineering not too difficult (Oglesby, 1948). Construction courses often include cost control, estimating, accounting, labor relations, management, scheduling, etc.

Both undergraduate and graduate engineering-based construction programs may be found, however, at some institutions, the construction option is a 5th year added to the conventional civil engineering curriculum. Graduates who

complete this 5th year option receive the Master of Science in Civil Engineering (MSCE) degree.

Professor Oglesby opposes this method of construction specialization due to his belief that the extra time requirement will decrease enrollment and thus the base of graduates in the future. At Stanford advanced calculus, descriptive geometry, advanced strength of materials problems, advanced surveying, and introduction to sanitary engineering were dropped to make room for accounting, construction estimating and costs, construction equipment and methods, business law, and industrial relations so that program could take on a construction specialty while remaining a 4 year program (Ledbetter, 1985).

The Accreditation Board for Engineering and Technology (ABET) began evaluating faculty and facilities in the early 1900's. By the 1930's it began evaluation of undergraduate curricula. Over time, this and other pressures within the academic community forced engineering schools to introduce many courses in humanities and liberal arts. (Oglesby 1982)

Nonengineering based construction programs are sometimes called technology-based, construction, or building construction programs (Oglesby, 1982). The Building Construction Management program at Michigan State University, falls into this classification.

Basically these programs attempt to prepare the graduate not for the design phase of the construction process but the construction/erection phase instead. In this

age of specialization there is room for both engineering and nonengineering programs since there is incredible need for forward thinking designers and problem solvers at the theoretical level on the one hand, as well as doers and day-to-day problem solvers on the other (Oglesby, 1982). Graduates are often employed as site superintendents, schedulers, time keepers, costing record keepers, etc.

There are many 1 year certificate programs and 2 year associate degree programs which are mainly the domain of community colleges and technical schools. There also exist 4 year baccalaureate, masters, and doctorate degree programs, which are conducted at colleges and universities.

Few of the courses taken by engineering-based construction students are also taken by nonengineering-based construction students. Exceptions may include first year Calculus, Surveying, and Construction Cost Estimating.

Nonengineering-based baccalaureate degrees are suspect in some engineering and architectural circles and thus are not afforded the status of professional degrees. Many engineers and architects consider the nonengineering-based construction education to be the responsibility of trade schools, therefore, having no place in the university. This is an odd anomaly since undergraduate engineering education has often been suspect in university liberal arts departments (Oglesby 1982).

Unlike engineering and architecture graduates, nonengineering construction graduates had no professional

organization for individuals until the founding of the American Institute of Constructors (AIC) in 1971. Qualification is established either by recommendation or examination (Oglesby, 1982).

The American Council for Construction Education (ACCE) was incorporated in 1974 primarily through the assistance of Associated Schools in Construction (ASC) and the American Institute of Constructors (AIC). It establishes a program of voluntary accreditation of construction education curricula which attempts to assure a quality professional construction education for students. To be eligible an institution must offer a baccalaureate program of 4 years or more which emphasizes construction education.

ACCE guidelines state,

> "the purpose of the curriculum is to provide for a broad education which is responsive to social, economic, and technical developments and shall reflect the application of evolving knowledge in construction and in the behavioral and quantitative sciences."
>
> ACCE Form 103

Training vs Education

Haltenhoff (1986)said,

> "Educational programs *"train"* for immediate utilization, and *"educate"* for future utilization. The time constraints of the educational process do not permit either complete training or complete education, let alone both. Vocational programs train, professional programs educate, and technology programs try their best to balance both. Trained graduates are productive upon employment, but their limited training confines their productivity to a narrow area of responsibility. Educated graduates are less productive upon employment, but have potential in a broad area of future responsibility. Training assimilates with the lower echelons of management, education with the higher echelons. While the educated graduate must be trained before he begins advancement, the trained graduate must

> be educated before achieving advancement. If the foregoing is accepted, it stands to reason that academia should educate more than train, and industry should train more than educate. Both segments are naturally constituted in this direction." (p 161).

Hiring Preferences

In addressing hiring preferences by contractors and owners, for residential and commercial building construction, according to the Business Roundtable (1982),

> "A majority of the small owners and contractors preferred graduates from construction rather than civil engineering as managers of actual construction. A majority of the small owners preferred those from civil engineering for overall project management, while contractors preferred construction graduates for these positions. For medium and large sized contractors, something of a preference was expressed for civil engineering graduates. "

According to Oglesby, industrial construction projects place less importance on the structure and more importance on process and control equipment.

> "This is usually designed by chemical, mechanical, and electrical engineers. It follows that owners building industrial facilities need project managers with engineering education to guide this work from conception to operation." (Oglesby, 1982)

Evaluation

The United States government grades meat, poultry, and milk which it assumes the buyer cannot grade for him/herself. However, even though educational programs shape our future society educational programs often escape formal evaluation.

The first educational program evaluation, in the United States of America, took place over 3 and one half centuries

ago, on September 23, 1642 at Harvard College. The evaluators of the 9 senior sophisters included 13 persons, all of whom were either graduates from Cambridge or Oxford or relatives of same. Before receiving their degrees, the students had to demonstrate proficiency in the use of Latin, Greek, and Hebrew. In addition the students had to perform their Latin disputations on philosophical theses propounded in logic, rhetoric, and grammar, and on philosophical thesis in ethics, physics, and metaphysics. The first Harvard degrees were then conferred on those students who received the approbation of the overseers due to their proficiency in the tongues of the arts (Harcleroad, 1980).

When construction curricula are evaluated, it's accomplished by faculty and administrators with the hope of achieving self-improvement. Accreditation agencies may also investigate a school's program, although, they evaluate to determine minimum compliance with their standards not maximum program effectiveness.

The summative evaluation method discussed by Gagné (1969) is the method of evaluation used by the education studies which were reviewed by, and a part of this study. Research dealing with alumni is completed *after* the curriculum has done its work so to speak.

Alumni ratings have been used as a source of evaluative information in institutions of higher education in several different ways (Wise, 981):

1) alumni ratings of teaching performance for

individual professors have been compared with ratings of currently enrolled students.

2) alumni ratings represent a much broader evaluative approach than current students because they can provide an assessment of the skills required in their profession. Alumni from 11 Midwest colleges reported that cognitive and affective skills such as sensitivity, team membership, supervision of work, and oral communications were important for success but they did not adequately learn these skills while in college. Most alumni rated their college as useful when considering the increase in general knowledge, however, only one third rated their college as having increased their leadership ability and helped in their formulation of life goals and,

3) alumni assessment of the major department. Alumni accomplishments since graduation were not found to relate in any clear way to measures of faculty productivity, student ability, quality of learning environment, or department reputation. Along this line Wise (1981) found alumni ratings to be highly correlated, .70 &.80, between alumni and enrolled students regarding ability of faculty and overall program excellence, respectively.

Wise (1981) also found that out of 134 college department heads surveyed nearly 60% considered alumni ratings and opinions to be "very important" information for

department evaluations and reviews. When asked how many department heads had alumni evaluation information available, only 40% indicated that they did have access to this data. Therefore, 20% think the information is "very important" but do not have it available.

According to Wise (1981), several issues need to be addressed when endorsing the use of alumni ratings of departments:

1) Do alumni rate along the same dimensions as they did when they were enrolled students?

2) If they do rate along the same dimensions, then are alumni data worth collecting at all since alumni data is more expensive to obtain than enrolled student data? If the data are redundant then should you simply use data from the least expensive source; enrolled students?

3) What is the influence of one's job situation on departmental quality ratings?

Wise (1981) found that alumni tend to rate their programs after graduation along the same dimensions as they did prior to graduation. He did find some significant differences between alumni and enrolled student ratings:

1) alumni were more satisfied with integration of courses,

2) alumni were more satisfied with classroom evaluation procedures,

3) alumni were more satisfied with accessibility of

instructors, and

4) alumni were less satisfied with vocational guidance.

It is suggested by Wise (1981) that the first three differences may best be left open to interpretation while the forth, less satisfaction with vocational guidance, seems clear.

> "Alumni have a more valid perspective on the quality of vocational guidance in a department than do enrolled students. Only when students graduate and enter the working world can they be expected to reasonably evaluate the vocational guidance they have received." (p.76)

> "Just as enrolled student ratings represent a relevant perspective on departmental quality, this study (Wise, 1981) has demonstrated that alumni ratings can also provide a unique source of data in assessing departments." (p.77)

Research

Research for construction might broadly be divided into two categories (Oglesby, 1990):

1) New development with specific applications, and

2) new or better approaches to problems.

The first of these areas, new development with specific applications, has found some success in the United States. The second, new or better approaches to problems, has found little industry support and has generally failed.

For such a large industry, $470 billion in total new construction during 1993 (U.S. Dept. of Commerce, 1994), one

would think that construction research in the U.S. would be big business, however, as reported by Professor Oglesby (1982) 1981 university research dollars amounted to a paltry $1,115,000 for the construction industry in the United States.

According to Oglesby (1990), "There is evidence that the American construction industry is becoming more receptive to the concept of university research for construction." In 1988 $13,000,000 was directed toward construction research in the United States, however, when compared with Japan, one of our chief competitors in the domestic and worldwide construction markets, this is woefully insufficient. Through a team effort of contractors and government, $400,000,000 was spent in 1988 on construction research for a market which is half the size of that of the United States. Therefore, Japan out spent the United States by a 30 to 1 margin for construction research in 1988 (Oglesby, 1990).

Some of the reasons for this vast discrepancy between Japanese and American construction research expenditures are, 1) in Japan the government is a business partner with the construction industry as well as many other businesses and as such provides large sums of money for research, and 2) American construction companies believe the construction project owner is the primary beneficiary of construction research and should pay for construction research.

The Merit Shop Foundation, Ltd. (1984) evaluated

construction research areas for 34 universities which offer graduate construction programs. They asked 222 small-, medium-, and large-sized contractors, both general and specialty, in what areas they thought research should be conducted. The response rate was 25 and 109 respectively. The study illustrates the wide chasm which exists between what universities are researching and what the industry would like to see researched. Except for the needs of academia, to be most effective, research should for the most part be conducted in those areas in which contractors, both general and specialty, feel necessary. Such research may provide for a "buy in" of the need for financing of construction education by the industry.

In this study contractors wanted more emphasis placed on applied topics such as estimating, costs, quality control, and safety. Surprisingly, the universities are placing little emphasis on safety from a research or curricular perspective.

The greatest deviation in the research needs perceived by industry and the research needs perceived by construction schools is in the specialty areas. Mechanical, plumbing, electrical, and sales specialties were deemed to be necessary research areas by 81.2%, 80.6%, 79.5%, and 78.6%, respectively, of the contractor respondents. The matching research percentages for participant universities were 0.0%,0.0%,11.1%, and 0.0% for mechanical, plumbing, electrical, and sales specialties respectively.

Also, this study concluded that the discrepancy exists in two major areas:

1) lack of instruction and research in specialty areas previously mentioned, and
2) the lack of instruction in written and oral communications skills.

Instructors for mechanical and electrical systems are almost non-existent. University salary structure and promotion procedures are non-competitive with industry opportunities (Young & Marchman, 1977).

Nearly half of the contractors responding to the survey felt that a full course was needed in written communication skills. Correspondingly, only 15% of the responding universities offer a full course in technical writing, however, most universities require the student to demonstrate writing skills as part of the masters report or thesis requirements. Similar findings were obtained by Young & Marchman (1977) and Stroup (1993).

When comparing the perceived need for university construction research effort with the areas where research is currently conducted, it is easily determined that research in the specialty areas is viewed by the construction industry as quite important (Oglesby, 1990).

Past and current graduate research in the United States has and continues to reflect the emphasis on construction management in its various phases. In addition, current trends in research consider the ecological ramifications of

construction. Opportunities for ecological research include energy use, waste and pollution control, population trends, waterworks, land use, etc.

The proliferation of computers in society in general, and business in particular, affords the graduate student yet another vast research opportunity.

Continuing Construction Industry Education (In-Service)

Given the changing nature of the construction industry, with regard to construction techniques and practices, some may assume that the construction industry would be demanding intensive continuing education (in-service) courses and workshops to introduce new techniques and methods to its employees. Organized continuing education for construction managers is almost nonexistent and there appears to be little demand for it (Oglesby, 1990).

Cost/benefit ratios for in-service education have been documented and are quite impressive. The Construction Industry Institute (CII) developed constructability concepts through research. Using this research one company saved 5% in costs and 13% in time. The ratio of savings to costs was 32:1. Another company reduced the cost of errors and omissions from 6.3% to 1.5% (Oglesby, 1990).

Professor Oglesby (1990) reports, "Sad as it may seem, the bright star for in-service construction education is in the area of 'claims'. Workshops in this area are highly

advertised. Their aim, after things have gone wrong on a project, is to place the blame on the other party. These workshops have almost nothing to say about doing it right the first time, which is the positive approach to education." (p14)

Among the explanations given for the industry's indifference toward in-service education are (Oglesby, 1990):

- Construction is a highly fragmented industry in which management is driven by many demands on its time and energies, to learn about, see the need for, or release personnel to attend in-service programs that fit their needs.
- A failure on the part of buyers and contractors alike to appreciate the demonstrated payoffs that in-service education can bring. In contrast, Japanese contractors, who recognize its value, have strong in-house training centers for their employees.
- Management complacency.
- Construction industry has a short-run, profit oriented approach to expenditures which looks for early payoff rather than long-range payoffs. Management's usual opinion is that continuing education does not meet this criterion.
- Suspicion of and prejudice against educators. Educators are often envisioned as theoretical,

impractical, and self serving, and therefore unable to offer much of value.

No major effort from academia or the construction industry seems to be underway on a nation wide basis for in-service education, although, Texas A and M has assumed a leadership role in the regional in-service construction education arena. The potential for additional regional and national programs could be tremendous once the industry's indifference is no longer an obstacle (Oglesby 1990).

Construction education is a response to industry needs, expressed by industry leaders and educators over a period of several decades. Informal studies and published articles have pointed out the unique educational needs of construction. However, in many cases, the dissemination of information did not match the importance of the data. While several surveys indicated educational needs as early as 1961, no further formal curriculum studies were produced until the mid-1970's".(Young & Marchman, p11, 1977).

What Is Ahead For Construction Education

The future construction workforce needs *education* in addition to *training*. Basic academic skills are essential. Construction managers and workers need to bring more concepts and skills to the jobsite than what was learned through the craft/occupational training programs of the past. Today's construction worker must work accurately with dimensions, weights, volumes, plans, laws, and most of all,

people on the jobsite each day. They now need and will continue to need strong foundations in mathematics, basic sciences, oral and written communications, human relations and management, business law, construction law, construction contracts, construction technology, construction methods, etc., etc., etc.

Professor Oglesby (1982) states:

"Regardless of the pace at which it happens, university education in the years ahead will change by:

1. Providing graduates with educations better fitted to plan and manage construction...
2. Increasing construction research to develop new and better approaches to industry problems...
3. Developing and, as resources permit, providing in-service in-depth education on advanced subjects for construction and project managers..." (p.615).

Undoubtedly there will be additional focus on graduate and advanced graduate work as the industry grows more complex and sophisticated. Contractors, engineers, architects, owners, colleges, and universities must work together to ensure that construction research and education keep pace with this dynamic industry.

CHAPTER 3

Research Methodology

Population

The population of this study was Building Construction Management (BCM) graduates from Michigan State University who received their baccalaureate degree between Winter Term 1980 and Summer Term 1992. A listing of persons in this population was provided by the Alumni Office of Michigan State University.

These names and addresses were entered into a dBase IV, Borland International Corporation, application which was programmed by the researcher using dBase IV's command language. This application was used to sort the records for demographic information, identity pilot #1 and pilot #2 participants, identify regular participants, remove *"bad addresses"*, and provide an ASCII file output for merging with WordPerfect 6.0. Labels were then generated by the researcher for the pilot study mailings, initial mailing, and follow-up mailings.

Instrumentation

According to current questionnaire research, questionnaires deal with four basic types of questions (Sudman, 1990): fact, opinion and attitude, information, and self-examination.

It is recognized that the internal validity of the study hinges greatly on the content validity and structure of the questionnaire used.

The survey instrument was developed after careful consideration of the questions to be investigated. Ideas were gathered from instruments used by Betterly (1993), Stroup (1992), Weidman (1992), Young (1977), Bower (1977), Bessai (1977), and Aleamoni (1972), some of which were incorporated into the first draft of the instrument used for this study.

The first draft of the questionnaire was evaluated by Professors Becker and Lehmann in the Department of Counseling and Educational Psychology at Michigan State University. Suggestions for improvement were made and implemented. Additional input was received from the researcher's graduate committee members, existing and past Building Construction Management student interviews, and interviews with local home builders, general contractors, and specialty contractors. Improvements were noted and made part of the second revision. The second revision was used in the first pilot study. Input from the first pilot study respondents suggested the need for another revision --

number three -- which was used in the second pilot study. Revision number three was used in this study.

The final product (Appendix B) is four pages long. The document mailed to the population, less the pilot study sample, was printed on white 11" X 14" white paper printed in black ink. The letter of transmittal (cover letter) was printed on Michigan State University, Building Construction Management letterhead. Stamped self-addressed #9 envelopes were also enclosed in the packet in an effort to make responding easier and less expensive to potential participants. The weight of the package was .92 ounces.

The cover letter (Appendix A) accompanied each questionnaire. The cover letter addressed the importance of participation by the addressee, a deadline for responding, assurance of confidentiality, and directions for getting questions answered or obtaining a new questionnaire. Only 1 respondent actually called but was happy to be able to talk to the researcher. He had several questions regarding the current program, graduate school, and the contact person for hiring B.C.M. students in the future.

The researcher originally planned to include a separate response postcard. Upon this card respondents would have placed their names and mailed them separately from the survey instrument. The researcher intended to use the response post card to delete respondent names from the follow-up mailings thus saving the researcher the cost of these mailings to those who already responded to the study.

The response postcard was not included for the following reasons: 1) the weight of the package would have been greater than one ounce requiring an additional $.22 per package mailed, 2) additional time would have been needed to delete respondent names from the data base, and 3) six of persons in the pilot study did not like the idea of placing their names on the postcards because city postmarks would certainly allow for matching of survey instruments and graduate names, plus because of the extensive open-ended questions handwriting may be identified. Had there been many participants from only a few post office locations it would have been perceived as difficult if not impossible to group survey instruments with individuals. In the researcher's opinion, the format of the dBase IV application also makes it possible to match instruments with names unless the address in dBase IV is an old address. However, pilot study participants only had a concern with the response card.

The first two reasons would not have been important enough to prevent the use of the postcard, however, the third reason was deemed crucial due to potential loss of anonymity and a resulting decrease in the response rate.

Pilot Study

The researcher conducted two pilot studies. The first was mailed to a simple random sample of 15 persons from the population. The second pilot was mailed to another random sample of 20 graduates also from the population.

A stratified random sample was considered so that students could be classified by year of graduation. This was abandoned due to the uncertainty of response rates due to bad mailing addresses as supplied by the Alumni Office.

A number was assigned to each of the 970 labels supplied by the Alumni office. The random number generator of an Hewlett-Packard HP19B Business Analyst II calculator was utilized to randomly select the pilot study participants. The selection process continued without replacement and no graduate was allowed to be selected more than once in each study or for both studies.

The first pilot study of 15 graduates resulted in 9 respondents with 1 questionnaire package returned due to address unknown or forwarding order expired. However, 4 of the second group of 20 were returned because the forwarding order having expired. Only 3 questionnaires of the 15 remaining were complete and returned. The overall response rate was 13/35 or 37.14% and the return rate due to bad addresses was 6/35 or 17.14%. Of those not returned, the response rate for both pilot studies combined was 13/29 or 44.83%. All respondents were a segment of the population.

Both pilot studies included a letter of transmittal (cover letter) on Michigan State University Building Construction Management letterhead, stamped self-addressed return envelope, stamped-self addressed response postcard, and the 4 page questionnaire. The only difference between the two mailings was minor changes in the questionnaire

itself for the second mailing. The modifications were made on the basis of the first wave of respondents which were intended to clarify questions and afford the questionnaire a more attractive appearance. Only 2 of the 13 respondents returned the response postcard.

Collection of Data

The study formally began with a mailing to the population identified by the M.S.U. Alumni Office, 935 total 970-35 used in pilot study), which consisted of a cover letter, questionnaire, and stamped self-addressed envelope. These items were mailed first class on May 21, 1994.

On June 1, 1994 thank you/reminder post cards were mailed (see Appendix C). A followup mailing was made on June 10, 1994 which included another cover letter, questionnaire, and stamped self-addressed envelope.

There were 154 instruments returned with the following information provided by the United States Postal Service: forwarding order expired, no such address, and hand written notes such as, "Never heard of him", "No longer here", "Moved", etc.

Once questionnaires began arriving a data entry template was set up by the researcher using SPSS/PC+ Version 5.0 Base System running on a 486/DX33 IBM compatible personal computer. At this level; variables were named and labels applied; value labels established and entered; file names determined; and analysis scripts established for

subsequent data analysis. In an effort to improve data input accuracy, variable names were up to 8 alpha/numeric characters which had some resemblance to the variable itself. Example: the variable **Year Started At MSU** was named **STARTED** rather than V01, or VAR1, etc. A quick glance at the SPSS data input screen easily indicated which variable was being entered at all times. The negative aspects of these relatively long variable names were two fold, 1) more computer memory was required, and 2) reports required more columnar space when printed out on the Hewlett-Packard laserjet III printer.

Eight questionnaires were returned blank, in the stamped self-addressed envelope. The respondents indicated that they were indeed graduates from a Michigan State University baccalaureate program, but were not Building Construction Management graduates. A ninth respondent indicated that she was a Communications graduate although, she did provide answers to the demographic information. This ninth respondent also made a significant contribution to the Building Construction Management program with one of the open-ended question she chose to address. Her suggestion: "The curriculum looks great. Anyone can be a licensed builder, but with an education a builder would have a better understanding and working knowledge -- most are uneducated. I think those with degrees should have it listed on their builders license as an accreditation."

Completed questionnaires were returned by 44 B.C.M.

graduates from Michigan State University. However, since their date of graduation was either prior to 1980 or after Summer term 1992 they were deleted from the study.

Responses from the population, 150 (33.04%) were the only ones used. As instruments were keyed into SPSS each entry was verified for accuracy (once on the SPSS entry screen and twice when printed out), descriptive statistics were run, and hypothesis testing was completed using the t-test of differences between means.

Table 3.1 Population Adjustments

Mailed (includes non-population)		935
Less:	Returned as undeliverable from the population only	134
	Returned by non-BCM graduates	8
	Those not a part of the population as identified by Alumni office's second mailing list which was spot checked for accuracy	339
Adjusted population		454

Data Analysis

Data analysis was accomplished with SPSS/PC+ Version 5.0 Base System running on a 486/DX33 IBM compatible personal computer with hard output provided by a Hewlett-Packard LaserJet III printer.

Frequency distributions were completed for 1) all respondents and 2) for the 1980-86 and 1987-92 respondents as two discrete groups.

Five null hypotheses were formulated. The t-test was

utilized to determine the significance of observed differences between the means of the 1980-86 and 1987-92 respondents. If significant differences were found the null hypotheses would be rejected. If significant differences were not found the null hypothesis would not be rejected.

The hypothesis test will be two-tailed with the pooled variance, s^2, being used to estimate the population variance, σ^2. The researcher used Levene's test of the difference in variances to determine whether to use the equal or unequal variance t-test. Equal variance was used for each and thus variances were pooled.

$$s^2 = \frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{(n_1 - 1) + (n_2 - 1)} = \text{the estimator of } \sigma^2$$

$$t = \frac{(\bar{x}_1 - \bar{x}_2)}{s\sqrt{(1/n_1) + (1/n_2)}}$$

With $(n_1 + n_2 - 2)$ degrees of freedom.

Analysis of variance (**ANOVA**) was performed but not used due to grossly unequal sample sizes (Jarrett, 1989). Multivariate Analysis of Variance (**MANOVA**) was not used due to user-missing data in listwise analyses. SPSS/PC+ generated warnings indicating multivariate analyses would not be run due to too few degrees of freedom as a result of excessive user-missing data.

After imputing cases and data analysis, information was downloaded in the ASCII format for use in generating tables

using Quattro Pro 4.0 from Borland International. This package was used for its flexibility in reporting numerical data.

Hypotheses Analysis

Perceived satisfaction levels of 1980-1986 graduates of the Building Construction Management curriculum at Michigan State University are the same as perceived satisfaction levels of 1987-1992 graduates of the Building Construction Management curriculum at Michigan State University.

Course groupings are the same as those used by Shofoluwe (1990) and Stroup (1992):

1. General education
2. Construction design and engineering
3. Business and management
4. Construction technology
5. Management of construction operations

Hypothesis #1:

There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of General Education courses they took while attending Michigan State University.

$H_o: \mu_1 = \mu_2$ $H_1: \mu_1 \neq \mu_2$

As a question: Is there a difference between the

perceptions of the 1980-86 and 1987-92 Building Construction Management graduated regarding their perceptions of the usefulness of courses they took while attending Michigan State University in the General Education course category?

Since students in the first subpopulation (1980-86) graduated 1-12 years prior to those in the second subpopulation (1987-92), they may not recall the details of courses they took which were beneficial, and which were not so beneficial. Because they have worked longer they may have a better perception of what courses are important for success. Elapsed time since graduation may impact on the accuracy of information received from both subpopulations.

These data will be analyzed using the information provided in question 9 of the questionnaire with ordinal being the scale of measurement. The means of the two subpopulations will be compared using the t-test at the α = .05 level of significance with .025 in each tail. $\bar{x}_1$ and $\bar{x}_2$ will be used to estimate the population mean. Software to be employed is SPSS/PC+ Version 5.0.

The hypothesis test will be two-tailed with the pooled variance, s^2, being used to estimate the population variance, σ^2.

Additional and confounding variables, not shown on the coding scheme sheet, Appendix C, may be:

a. Pre- and post-graduation work experience

b. Type of work experience

c. Interaction with the faculty (i.e.

personality conflicts)

Hypothesis #2:

There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of Construction Design courses they took while attending Michigan State University.

H_o: $\mu_1 = \mu_2$ H_1: $\mu_1 \neq \mu_2$

As a question: Is there a difference between the perceptions of the 1980-86 and 1987-92 Building Construction Management graduates regarding their perceptions of the usefulness of courses they took while attending Michigan State University in the Construction Design course category?

Hypothesis #3:

There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of Business and Management courses they took while attending Michigan State University.

H_o: $\mu_1 = \mu_2$ H_1: $\mu_1 \neq \mu_2$

As a question: Is there a difference between the perceptions of the 1980-86 and 1987-92 Building Construction Management graduates regarding their perceptions of the

usefulness of courses they took while attending Michigan State University in the Business and Management course category?

Hypothesis #4:

There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of Construction Technology courses they took while attending Michigan State University.

H_o: $\mu_1 = \mu_2$ H_1: $\mu_1 \neq \mu_2$

As a question: Is there a difference between the perceptions of the 1980-86 and 1987-92 Building Construction Management graduates regarding their perceptions of the usefulness of courses they took while attending Michigan State University in the Construction Technology course category?

Hypothesis #5:

There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of Management of Construction Operations courses they took while attending Michigan State University.
course category.

H_o: $\mu_1 = \mu_2$ H_1: $\mu_1 \neq \mu_2$

As a question: Is there a difference between the perceptions of the 1980-86 and 1987-92 Building Construction Management graduates regarding their perceptions of the usefulness of courses they took while attending Michigan State University in the Management Of Construction Operations course category?

Summary

This chapter discussed the population, instrumentation, pilot study, collection of data, and hypotheses relating to the population of 1980 - 1992 Building Construction Management graduates of Michigan State University.

Presentation and analysis of data follows in Chapter 4. The findings, conclusions, discussion, limitations of the study, and recommendations for future research are summarized and reported in Chapter 5.

CHAPTER 4

Presentation and Analysis of Data

This chapter will address three areas. First the demographic profile will be presented. Demographic information on respondents will include:

1) Number
2) Gender
3) Age at graduation
4) Ethnicity
5) State of residence
6) How the first job was obtained
7) Current employment status
8) Whether he/she is self-employed
9) Has he/she hired BCM graduates
10) Was the respondents first job construction related
11) Most valuable courses
12) How many have or will attend graduate school.

The second analysis will test the 5 research hypotheses concerning the perceptions of the 1980-86 and 1987-92 subpopulations and decisions made to accept or not accept the null hypotheses.

The third analysis will examine responses to the open-ended questions including Current Job Title If Employed, Curriculum Advantages, Curriculum Problems, Courses To Add, Courses To Delete, Courses Where I'd Spend Additional Time If I Had It To Do Over, and Suggested BCM Improvements.

These analyses were conducted based upon data gathered from questionnaire responses from a population of 454 Building Construction Management graduates from Michigan

State University. This number was derived after deleting bad addresses and persons not a part of the population due to an error in the Alumni Office's mailing list which was originally provided to the researcher. The original list of 970 graduates included both B.C.M. and non-B.C.M. graduates from 1943 - 1994.

There was a total of 150 responses from the target population. The 1980-86 graduates returned a total of 54 usable instruments and the 1987-92 graduates returned 96 usable instruments. The overall response rate was 33% (Table 4.1).

Alumni Profile

Page 1 of the questionnaire asked for demographic information which included, age, ethnicity, first job salary, how first job was obtained, year started at MSU, year graduated from MSU, and whether the first job was construction or non-construction related (See Appendix B).

Table 4.1 Respondents

Graduation Year	Frequency	Percent
1980-86	54	36.0
1987-92	96	64.0
Total	150	100.0

Ethnicity Of Respondents

The vast majority of respondents, 139 (97.2%), were Caucasian/white. A total of 2 respondents each were African American/Black and Mexican American/Latino which is 1.4% each. Seven respondents failed to answer this question. This data was, therefore, considered missing by SPSS. Table 4.2 presents the data.

Table 4.2 Ethnicity of Respondents

Ethnicity	Frequency	Percent
Caucasian/White	139	97.2%
African American/Black	2	1.4%
Asian/Pacific Islander	0	0.0%
Mexican American/Latino	2	1.4%
Native American	0	0.0%
Other	0	0.0%
Total	143	100.0%

* 7 respondents did not answer this question.

Gender

Of the 145 respondents, 131 were male and 14 were female with 5 respondents failing to answer the question. The 1980-86 subpopulation contained 50 males and 4 females while in the 1987-92 subpopulation there were 81 males and 10 females with missing data accounting for 1 and 4 respondents respectively. Table 4.3 presents the number of respondents by gender for each respondent group as well as totals.

Table 4.3 Gender of Respondents by Subpopulation

Gender	1980-86	%	1987-92	%	Total	%
Male	50	92.6	81	89.0	131	90.3
Female	4	7.4	10	11.0	14	9.7
Total	54	100.0	91	100.0	145*	100.0

* 5 respondents did not answer this question.

Age Upon Graduation

More than one half of the respondents graduated prior to the age of 23 years. The mean age at graduation was found to be 23.67 years for the 1980-86 subpopulation and 22.4 years for the 1987-92 subpopulations. The mean age for all respondents was 22.9. Table 4.4 presents the data.

Table 4.4 Age at Time of Graduation
(Frequencies Shown)

Age @ Graduation	1980-1986	%	1987-1992	%	Total	%
20	0	0.0	1	1.1	1	0.7
21	7	13.5	16	18.2	23	16.4
22	15	28.8	43	48.9	58	41.4
23	14	26.9	20	22.7	34	24.3
24	6	11.5	4	4.5	10	7.1
25	3	5.8	3	3.4	6	4.3
26	2	3.8	0	0.0	2	1.4
27	1	1.9	0	0.0	1	0.7
28	0	0.0	0	0.0	0	0.0
29	1	1.9	0	0.0	1	0.7
30	0	0.0	0	0.0	0	0.0
31	0	0.0	0	0.0	0	0.0
32	0	0.0	0	0.0	0	0.0
33	1	1.9	0	0.0	1	0.7
34	1	1.9	0	0.0	1	0.7
35	0	0.0	0	0.0	0	0.0
36	0	0.0	0	0.0	0	0.0
37	0	0.0	0	0.0	0	0.0
38	1	1.9	0	0.0	1	0.7
39	0	0.0	0	0.0	0	0.0
40	0	0.0	0	0.0	0	0.0
41	0	0.0	0	0.0	0	0.0
42	0	0.0	1	1.1	1	0.7
Total	52	99.8#	88	100.6#	140*	99.8#

Does not add to 100.0% due to rounding
* 8 respondents did not answer this question.

State Of Residence

The majority of respondents currently reside in the state of Michigan with Ohio and Illinois placing a distant second and third respectively. None of the respondents indicated that their current residence was outside the continental United States, however, two questionnaires were mailed to Hawaii and one to Alaska. None of these questionnaires were returned to the researcher as undeliverable.

Table 4.5 reports the State of Residence for respondents. The data on the table is very similar to the population for which mailing addresses were obtained.

Table 4.5 State of Residence
(Frequencies Shown)

State Of Residence	1980-1986	%	1987-1992	%	Total	%
AR	1	1.7	0	0.0	1	.7
CA	2	3.4	4	4.3	6	4.0
CO	1	1.7	2	2.2	3	2.0
CT	1	1.7	0	0.0	1	.7
FL	1	1.7	0	0.0	1	.7
GA	1	1.7	0	0.0	1	.7
IL	5	8.6	2	2.2	7	4.7
IN	0	0.0	2	2.2	2	1.3
KS	1	1.7	2	2.2	3	2.0
MD	1	1.7	2	2.2	3	2.0
MI	36	62.1	61	66.3	97	64.7
NC	2	3.4	2	2.2	4	2.7
NJ	0	0.0	1	1.1	1	.7
NM	1	1.7	0	0.0	1	.7
OH	1	1.7	7	7.6	8	5.3
SC	0	1.7	1	0.0	1	.7
TN	0	0.0	1	1.1	1	.7
TX	2	3.4	1	1.1	3	2.0
VA	1	1.7	2	2.2	3	2.0
WI	1	1.7	2	2.2	3	2.0
Total	58	101.3#	92	96.9#	150	100.3#

 # Does not add to 100.0% due to rounding.

Current Employment Status

The majority of respondents are currently employed full time. Two respondents indicated they are currently full time students, 3 are unemployed, and 1 respondent failed to provide an answer to this question. Table 4.6 provides a view of the data.

Table 4.6 Current Employment Status

Employment Status	Frequency	%	Valid %
Employed Full Time	143	95.3	96.0
Full Time Student	2	1.3	1.3
Unemployed	4	2.7	2.7
Total	149*	99.3	100.0

* 1 respondent did not answer this question.

Self-Employment Status

From the population, 100 respondents indicated they are not self-employed and 42 indicated they are self-employed: there were 8 non-responses to this question which resulted in missing data for the statistical analysis. Table 4.7 provides a view of the data by group.

Table 4.7 Self-Employment Status
(Frequencies Shown)

Self Employed	1980-1986	%	1987-1992	%	Total	%
Yes	25	45.5	17	19.5	42	29.5
No	30	54.5	70	80.5	100	70.5
Total	55	100.0	87	100.0	142*	100.0

* 8 respondents did not answer this question.

Has Respondent Hired B.C.M. Graduates

Of the 142 respondents who chose to answer this question, 122 stated that they have not hired B.C.M. graduates since graduation while 20 respondents indicated they have hired B.C.M. graduates. There was no way to determine whether BCM graduates of Michigan State University were hired or those of another university or college.

Non-responses to this question numbered 8. Table 4.8 provides a view of the data.

Table 4.8 Hired B.C.M. Graduates Since Graduation
(Frequencies Shown)

Graduate Has Hired B.C.M. Graduates Since Graduation	1980-1986	%	1987-1992	%	Total	%
Yes	10	17.9	10	11.6	20	14.1
No	46	82.1	76	88.4	122	85.9
Total	56	100.0	86	100.0	142*	100.0

* 8 respondents did not answer this question.

How First Job Was Located

More than 50% of the respondents indicated they found their first jobs on their own, however, some respondents provided evidence that they found their jobs due to B.C.M. faculty initiatives in getting construction companies to come to M.S.U. to interview students. Of the 17 respondents who identified "Other" as the way they located their first job, four each specified family business, newspaper, and internship, while three indicated the graduation/resume book published by BCM, and one each specified recruiter and BCM bulletin board.

Table 4.9 How First Job Was Obtained
(Frequencies Shown)

Method	1980-1986	%	1987-1992	%	Total	%
On My Own	26	49.1	48	52.7	74	51.4
Help Of Friend Or Relative	5	9.4	15	16.5	20	13.9
Help of Instructor or Advisor	6	11.3	4	4.4	10	6.9
MSU Placement Office	10	18.9	9	9.9	19	13.2
Employment Office	2	3.8	2	2.2	4	2.8
Other	4	7.5	13	14.3	17	11.8
Total	53	100.0	91	100.0	144*	100.0

* 6 respondents did not answer this question.

Graduate School Data

Of the respondents, 30.9% have attended or plan to attend graduate school while 69.1% did/do not. See table 4.10 for subpopulation and population data.

Table 4.10 Number Who Have Or Plan To Attend Graduate School (Frequencies Shown)

Grad School?	1980-86	%	1987-92	%	Total	%
Yes	14	25.5	32	34.0	46	30.9
No	41	74.5	62	66.0	103	69.1
Total	55	100.0	94	100.0	149*	100.0

* 1 respondent did not answer this question.

First Job Area Of Concentration

Of the 150 respondents, 147 (98%) received construction related first jobs after graduation from the Building Construction Management program at Michigan State University. Residential and non-residential construction specialty areas accounted for 77 and 70 respondents respectively. Residential includes single and multi-family dwellings. Non-residential encompasses commercial, industrial, institutional, and heavy construction. The heavy construction category contains highways and bridges.

The subpopulation and population breakdowns are listed in Table 4.11. There were no missing responses to this question.

Table 4.11 First Jobs

Construction Area Of First Job	1980-1986	%	1987-1992	%	Total	%
Residential	30	51.7	47	51.1	77	51.3
Commercial	17	29.3	30	32.6	47	31.3
Residential/ Commercial	2	3.4	4	4.3	6	4.0
Commercial/ Industrial	5	8.6	5	5.4	10	6.7
All Above	2	3.4	4	4.3	6	4.0
Highways/ Bridges	0	0.0	1	1.1	1	.7
Not Construction Related	2	3.4	1	1.1	3	2.0
Total	58	100.0	92	100.0	150	100.0

Participants Most Valuable Courses

Respondents were asked to indicate by circling, the three courses which were most valuable to them. The courses selected most frequently are listed in Table 4.12 in descending rank order of frequency.

Table 4.12 Most Valuable Courses To Participants

Course	Frequency*
Construction Estimating	45
Architectural Drafting	24
Construction Methods	16
Communications (Spoken)	15
Structural Design	14
Communications (Written)	13
Real Estate Finance	12
Business Law	10
Utilities	9

* 68 respondents did not answer 1, 2 or all 3 parts of this question.

Analysis Of Data

Analysis of data and hypotheses testing was completed using frequencies and **t-tests** for each course using SPSS/PC+. Although Multivariate analysis of variance (**MANOVA**) was considered, due to too few listwise responses because of user-missing data for each category, degrees of freedom were too small for **MANOVA** as illustrated by a SPSS/PC+ warning when attempting to run the **MANOVA** command. User-missing data was encountered for each case when a respondent indicated he/she did not take any one or more of the courses listed in a category. Therefore, the **"Not Applicable"** response was considered as missing data and not used for calculating the mean score for any course.

Hypothesis #1:

There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of General Education courses they took while attending Michigan State University.

$$H_o: \mu_1 = \mu_2 \qquad H_1: \mu_1 \neq \mu_2$$

The category **GENERAL EDUCATION** is comprised of the following subjects: Algebra, American Thought & Language, Introduction To BCM, Biology, Business Law, Calculus, Chemistry, Communications (Speaking), Communications (Writing), Computer Applications (General), Computer

Programming, Cross Cultural Studies, Ecology, Economics, English Literature, Foreign Language, History, Law and Society, Marketing, Physics, Psychology, Statistics, Thermodynamics, and Western Civilization.

The data presented in Table 4.13 illustrates the t-test statistic, degrees of freedom (df), two-tailed significance at $\alpha = .05$, overall mean, $\bar{x}_1$, $\bar{x}_2$, and standard deviation (SD) for each course in this category. Of the 24 General Education courses, only one -- Business Law -- had a significant difference between the two groups. Business Law, demonstrated a statistically significant t-test, .012, at the $\alpha = .05$ level. The mean for the 1980-86 graduating classes was 2.0351 while the mean for the 1987-92 graduating classes was 2.4270. Therefore, the 1980-86 group perceived Business Law to be significantly more useful than the 1987-92 group. Table 4.18 includes the mean, standard deviation, and number of respondents for the 1980-86 and 1987-92 graduating classes as well as the total mean and standard deviation.

Hypothesis 1 was not rejected for this course group at the $\alpha = .05$ level.

General Education Course Statistics

Table 4.13

Variable Name	Mean	SD	$\bar{x}_1$	$\bar{x}_2$	df	t-value	2-Tail Signif. $\alpha = .05$
ALGEBRA	2.53	1.10	2.54	2.52	144	.14	.885
ATL	3.14	1.01	3.11	3.16	140	- .27	.061
BCMINTRO	2.87	1.10	3.10	3.73	133	1.89	.061
BIOLOGY	4.06	1.04	3.85	4.17	78	-1.30	.196
BUSLAW	***2.27***	***0.93***	***2.04***	***2.43***	***144***	***-2.53***	***.012***
CALCULUS	3.46	1.11	3.63	3.38	85	.96	.340
CHEMISTR	3.85	1.00	3.77	3.89	95	- .54	.588
COMSPEAK	2.10	1.04	2.23	2.02	143	1.15	.253
COMWRITE	2.00	0.96	2.02	1.99	133	.18	.855
COMPAPPL	2.27	1.06	2.52	2.14	115	1.88	.063
COMPPROG	3.30	1.26	3.30	3.30	113	0.00	1.000
CROSSCUL	3.82	1.01	4.05	3.72	64	1.24	.220
ECOLOGY	3.49	1.15	3.78	3.31	79	1.84	.069
ECON	3.05	1.08	2.87	3.16	143	-1.55	.124
ENGLIT	3.78	0.97	3.71	3.82	99	- .51	.609
FORLANGU	3.76	1.12	3.80	3.74	53	.18	.858
HISTORY	3.85	1.08	3.84	3.85	102	- .03	.977
LAW&SOCI	3.17	1.11	3.19	3.16	85	.10	.924
PSYCH	3.57	1.04	3.67	3.51	132	.91	.366
MKTG	3.03	1.03	2.86	3.14	93	-1.27	.207
PHYSICS	3.15	1.08	3.10	3.18	134	- .41	.683
STATISTI	3.44	0.95	3.35	3.48	60	- .49	.629
THERMODY	3.37	1.00	3.13	3.61	44	-1.66	.104
WESTCIV	3.96	1.01	4.00	3.93	76	.28	.782

Mean approaching 1, course was **Very Essential**
5, course was **Of No Use**

$\bar{x}_1$ = mean of 1980-1986 graduates
$\bar{x}_2$ = mean of 1987-1992 graduates
SD = standard deviation
df = degrees of freedom

Italic = *H_0 rejected for this course ONLY.*

Hypothesis #2:

There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of Construction Design courses they took while attending Michigan State University.

$$H_o: \mu_1 = \mu_2 \qquad H_1: \mu_1 \neq \mu_2$$

The category **CONSTRUCTION DESIGN** is comprised of the following subjects: Architectural Drafting, Computer Aided Design, Foundation & Soil Mechanics, Spatial Design, Structural Design, and Utilities.

The data presented in Table 4.14 illustrates the t-test statistic, degrees of freedom (df), two-tailed significance at $\alpha = .05$, overall mean, $\bar{x}_1$, $\bar{x}_2$, and standard deviation for each course in this category. Of the 6 Construction Design courses, only one -- CAD -- had a significant difference between the two groups. CAD, demonstrated a statistically significant t-test, .008, at the $\alpha = .05$ level. The mean for the 1980-86 graduating classes was 2.78 while the mean for the 1987-92 graduating classes was 1.73. Therefore, the 1987-92 group perceived CAD to be significantly more useful than the 1980-86 group. Of the 6 courses in this grouping, CAD was the only course with an $\alpha \leq .05$.

Hypothesis 2 was not rejected for this course grouping at the $\alpha = .05$ level.

Construction Design Course Statistics

Table 4.14

Variable Name	Mean	SD	$\bar{x}_1$	$\bar{x}_2$	df	t-value	2-Tail Signif. $\alpha = .05$
ARCHDRAF	1.70	0.85	1.86	1.60	147	1.82	.071
CAD	***2.00***	***1.06***	***2.78***	***1.73***	***33***	***2.81***	***.008***
FOUNDSOI	2.62	1.07	2.63	2.61	87	.10	.924
SPATIALD	3.02	1.05	3.00	3.02	56	- .07	.942
STRUCDES	2.08	0.94	2.18	2.02	141	.97	.335
UTILITIE	1.99	0.90	2.14	1.90	130	1.48	.142

Mean approaching 1, course was **Very Essential**
5, course was **Of No Use**

$\bar{x}_1$ = mean of 1980-1986 graduates
$\bar{x}_2$ = mean of 1987-1992 graduates
SD = standard deviation
df = degrees of freedom
Italic = H_0 rejected for this course ONLY.

Hypothesis #3:

There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of Business and Management courses they took while attending Michigan State University.

$$H_o: \mu_1 = \mu_2 \qquad H_1: \mu_1 \neq \mu_2$$

The category **BUSINESS MANAGEMENT** is comprised of the following subjects: Accounting, Advertising, Construction Contracts, Management (Construction), Management (General Business), Management (Personnel), Management (TQM), Management of Physical Systems, Project Management, Project Management (Advanced), and Real Estate Finance.

The data presented in Table 4.15 illustrates the t-test statistic, degrees of freedom (df), two-tailed significance at $\alpha = .05$, overall mean, $\bar{x}_1$, $\bar{x}_2$, and standard deviation for each course in this category. There was no significant difference between the two groups for any of the courses.

Hypothesis 3 was not rejected for this course grouping at the $\alpha = .05$ level.

Business & Management Course Statistics

Table 4.15

Variable Name	Mean	SD	$\bar{x}_1$	$\bar{x}_2$	df	t-value	2-Tail Signif. $\alpha = .05$
ACCOUNT	2.72	1.05	2.62	2.78	146	- .89	.377
ADVERTIS	3.43	0.95	3.26	3.54	79	-1.31	.195
CONCONTR	2.19	1.00	2.17	2.20	124	- .14	.889
MANCONST	2.10	0.96	1.96	2.18	134	-1.30	.195
MANGENBU	2.46	1.01	2.36	2.52	128	- .91	.365
MANPERSO	2.35	1.05	2.36	2.35	83	.03	.980
MANTQM	2.62	1.17	2.44	2.69	58	- .75	.458
MANPHYSS	3.10	0.92	3.14	3.09	57	.19	.850
PROJMGT	2.18	0.98	2.00	2.27	108	-1.34	.184
PROJMGTA	2.25	1.02	2.21	2.26	46	- .15	.878
REALFINA	2.48	1.02	2.33	2.57	144	-1.39	.166

Mean approaching 1, course was Very Essential
5, course was Of No Use

$\bar{x}_1$ = mean of 1980-1986 graduates
$\bar{x}_2$ = mean of 1987-1992 graduates
SD = standard deviation
df = degrees of freedom

Hypothesis #4:

There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of Construction Technology courses they took while attending

Michigan State University.

H_o: $\mu_1 = \mu_2$ H_1: $\mu_1 \neq \mu_2$

The category **CONSTRUCTION TECHNOLOGY** is comprised of the following subjects: , Building Codes, Construction Estimating, Construction Finance, Construction Law, Construction Materials, and Surveying,

The data presented in Table 4.16 illustrates the t-test statistic, degrees of freedom (df), two-tailed significance at $\alpha = .05$, overall mean, $\bar{x}_1$, $\bar{x}_2$, and standard deviation for each course in this category. There was no significant difference between the two groups for any of the courses.

Hypothesis 4 was not rejected for this grouping at the $\alpha = .05$ level.

Construction Technology Course Statistics

Table 4.16

Variable Name	Mean	SD	$\bar{x}_1$	$\bar{x}_2$	df	t-value	2-Tail Signif. $\alpha = .05$
BULDCODE	2.06	0.91	2.04	2.08	142	- .25	.804
CONSTEST	1.73	0.94	1.83	1.67	147	.99	.322
CONFINAN	2.22	1.07	2.21	2.22	142	- .04	.972
CONLAW	2.15	0.98	2.18	2.13	123	.29	.772
CONMTLS	1.95	0.95	2.12	1.84	146	1.74	.084
SURVEY	2.36	0.85	2.38	2.33	85	.28	.781

Mean approaching 1, course was Very Essential
5, course was Of No Use

$\bar{x}_1$ = mean of 1980-1986 graduates
$\bar{x}_2$ = mean of 1987-1992 graduates
SD = standard deviation
df = degrees of freedom

Hypothesis #5:

There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of Management of Construction Operations courses they took while attending Michigan State University.

$$H_o: \mu_1 = \mu_2 \qquad H_1: \mu_1 \neq \mu_2$$

The category **MANAGEMENT OF CONSTRUCTION OPERATIONS** is comprised of the following subjects: Construction Methods, Construction Productivity, Construction Scheduling, Land Acquisition, and Land Development.

The data presented in Table 4.17 illustrates the t-test statistic, degrees of freedom (df), two-tailed significance at $\alpha = .05$, overall mean, $\bar{x}_1$, $\bar{x}_2$, and standard deviation for each course in this category. There was no significant difference between the two groups for any of the courses.

Hypothesis 5 was not rejected for this grouping at the $\alpha = .05$ level.

Management of Construction Operations
Course Statistics

Table 4.17

Variable Name	Mean	SD	$\bar{x}_1$	$\bar{x}_2$	df	t-value	2-Tail Signif. α = .05
CONMETHO	2.00	0.94	2.18	1.88	135	1.87	.063
CONPRODU	2.25	1.05	2.19	2.17	99	- .34	.734
CONSCHED	2.03	1.11	2.04	2.02	136	.09	.930
LANDACQU	2.74	1.14	2.29	2.82	88	- .91	.366
LANDDEVE	2.65	1.16	2.56	2.71	110	- .67	.503

Mean approaching 1, course was **Very Essential**
5, course was **Of No Use**

$\bar{x}_1$ = mean of 1980-1986 graduates
$\bar{x}_2$ = mean of 1987-1992 graduates
SD = standard deviation
df = degrees of freedom

Hypotheses Summary

None of the 5 null hypotheses were rejected. In fact only two of the fifty-two courses studied, **CAD** and **Business Law** demonstrated statistically significant differences between the means of the 1980-86 and 1987-92 subpopulations studied.

Table 4.17 summarizes the mean and standard deviation for each subpopulation and the population as a whole. The courses are listed in rank order based upon population course means: a mean of 1 indicates a course which respondents found very useful and a 5 indicates a course found to be of no use.

Course List Sorted By POPULATION Mean

Table 4.18

Course	**1980-1986**			**1987-1992**			POPULATION	
	Mean	SD	NR	Mean	SD	NR	Mean	SD
Arch. Drafting	1.86	0.96	58	1.60	0.76	91	1.70	0.85
Construction Estimating	1.83	0.96	58	1.67	0.93	91	1.73	0.94
Construction Materials	2.12	0.96	58	1.84	0.94	90	1.95	0.95
Utilities	2.14	0.91	49	1.90	0.89	83	1.99	0.90
Communications (Writing)	2.02	0.90	52	1.99	1.01	83	2.00	0.96
C.A.D.	2.78	1.20	9	1.73	0.87	26	2.00	1.06
Construction Methods	2.18	1.00	55	1.88	0.88	82	2.00	0.94
Construction Scheduling	2.04	1.11	50	2.02	1.11	88	2.03	1.11
Building Codes	2.04	0.82	53	2.08	0.91	91	2.06	0.91
Structural Design	2.18	0.92	56	2.02	0.95	87	2.08	0.94
Management - Construction	1.96	0.90	53	2.18	0.99	83	2.10	0.96
Communications (Speaking)	2.23	1.01	53	2.02	1.05	92	2.10	1.04
Construction Law	2.18	0.97	49	2.13	0.98	76	2.15	0.98
Project Management	2.00	0.87	35	2.27	1.02	75	2.18	0.98
Construction Contracts	2.17	0.97	46	2.20	1.02	80	2.19	1.00
Construction Finance	2.22	1.03	55	2.22	1.09	89	2.22	1.07
Construction Productivity	2.19	1.11	31	2.27	1.03	70	2.25	1.05
Project Management (Advanced)	2.21	1.12	14	2.26	0.99	34	2.25	1.02
Business Law	2.04	0.82	57	2.43	0.96	89	2.27	0.93
Computer Applications	2.53	1.09	40	2.14	1.02	77	2.27	1.06
Management - Personnel	2.36	1.03	28	2.35	1.08	57	2.35	1.05
Surveying	2.38	0.78	39	2.33	0.91	48	2.36	0.85
Management - General	2.36	1.03	50	2.53	0.99	80	2.46	1.01
Real Estate Finance	2.33	0.97	57	2.57	1.04	89	2.48	1.02
Algebra	2.54	1.02	57	2.52	1.15	89	2.53	1.10
Management - TQM	2.44	1.04	18	2.69	1.22	42	2.62	1.17
Foundations & Soils	2.63	1.03	30	2.61	1.10	59	2.62	1.07
Land Development	2.56	1.03	43	2.71	1.24	69	2.65	1.16
Accounting	2.63	0.98	56	2.78	1.09	92	2.72	1.05
Land Acquisition	2.59	1.12	29	2.82	1.15	61	2.74	1.14
BCM Intro	3.10	1.01	49	2.73	1.14	86	2.87	1.10
Spatial Design	3.00	0.93	15	3.02	1.10	43	3.02	1.05
Marketing	2.86	0.99	36	3.14	1.04	59	3.03	1.03
Economics	2.87	0.92	56	3.16	1.16	89	3.05	1.08
Management of Phys. Systems	3.14	0.66	14	3.09	1.00	45	3.10	0.92
Amer. Thought & Language	3.11	0.79	54	3.16	1.13	88	3.14	1.01
Physics	3.10	1.02	51	3.18	1.11	85	3.15	1.08
Law & Society	3.19	1.00	32	3.16	1.18	55	3.17	1.11
Computer Programming	3.30	1.23	46	3.30	1.30	69	3.30	1.26
Thermodynamics	3.13	0.76	23	3.61	1.16	23	3.37	1.00
Advertising	3.26	1.03	31	3.54	0.89	50	3.43	0.95
Statistics	3.35	1.04	20	3.48	0.92	42	3.44	0.95
Calculus	3.63	1.04	27	3.38	1.14	60	3.46	1.11
Ecology	3.78	0.71	32	3.31	1.34	49	3.49	1.15
Psychology	3.67	0.92	55	3.51	1.12	79	3.57	1.04
Foreign Language	3.80	0.83	20	3.74	1.27	35	3.76	1.12
English Literature	3.71	0.96	35	3.82	0.98	66	3.78	0.97
Cross Cult. Studies	4.05	0.76	20	3.72	1.09	46	3.82	1.01
Chemistry	3.77	0.84	35	3.89	1.04	62	3.85	1.00
History	3.84	0.86	38	3.85	1.19	66	3.85	1.08
Western Civilization	4.00	0.95	32	3.93	1.06	46	3.96	1.01
Biology	3.85	0.95	27	4.17	1.07	53	4.06	1.04

NR = Number Of Respondents
SD = Standard Deviation

Open-Ended Questions

This third section will report the major findings with regard to the open-ended questions:

Quest. #	Question
12	Current Job Title If Employed
13	Major Duties
15	BCM Curriculum Advantages
16	Curriculum Problems
17	Courses to: a) add b) delete
18	Courses Where I'd Spend Additional Time If I Had It To Do Over
19	Specific Suggestions For BCM Program Improvement

Current Job Title If Employed -- there were 55 responses to this question from the 1980-86 group and 85 from the 1987-92 group. More respondents, 16 of the 1980-86 graduates and 10 of the 1987-92 graduates, indicated their current job title was either president, vice president, or owner. Table 4.7, Self-Employment Status, provides support for this data.

Other job titles that were mentioned more than once included Sales, Manager, and Estimator. A complete list of job titles are reported in Appendix E.

The writer chose to categorize responses to this question in the following manner: 1. Upper Management (i.e. president, vice president, owner, general manager, division

manager, etc.), 2. Estimator or Sales Person (i.e. sales rep., manufacturers rep, counter sales, take offs, , 3. Site Supervisor (i.e. superintendent, field engineer, project manager, etc.), and 4. Other (i.e. attorney, real estate appraiser, auto test technician, etc.).

Table 4.19 Current Job Title If Employed

Job Title	1980-1986	%	1987-1992	%	Total	%
1. Upper Management	25	45	15	18	40	29
2. Estimator or Sales Person	13	24	33	39	46	33
3. Site Supervisor	13	24	29	34	42	30
4. Other	4	7	8	9	12	8
Total	55	100	85	100	140	100

Major Duties -- there were 139 respondents who elected to answer this question: 55 from the 1980-86 group and 86 from the 1987-92 group. Estimating was mentioned by 13 members of the 1980-86 group and 18 respondents from the 1987-92 group, while Sales was indicated by 7 and 9 respondents respectively. A complete list of major duties may be found in Appendix E.

The writer selected the following categories in which to place participants: 1. General Management, 2. Sales/Estimation, 3. Design, 4. Field Supervision, and 5. Other.

Table 4.20 Major Duties

Duties	1980-1986	%	1987-1992	%	Total	%
1. General Management	22	40	24	29	46	33
2. Sales	16	29	31	36	47	33
3. Design	4	7	4	5	8	6
4. Field Supervision	4	11	22	26	28	20
5. Other	7	13	5	4	12	8
Total	55	100	86	100	141	100

BCM Curriculum Advantages -- *"Well rounded"* was the most frequent response to this question. The 1980-86 group said well rounded 22 times for each of the 41 respondents. The 1987-92 group had 67 respondents; of those 23 expressed well rounded as the main BCM curriculum advantage: see Appendix E.

The writer chose to categorize responses to this question in the following manner: 1. Well Rounded (i.e. good mixture of courses, good overview, diverse, broad perspective, preparation for real world, etc.), 2. Faculty (i.e. real world experience, knowledge, field experience, teaching ability, down to earth, etc.), 3. Technical Courses (i.e. variety, drafting, good knowledge base, useful, etc.), and 4. Other (i.e. small classes, not too much math, networking, residential focus, etc.).

Table 4.21 BCM Curriculum Advantages

Advantages	1980-1986	%	1987-1992	%	Total	%
1. Well Rounded	22	54	23	34	55	52
2. Faculty	4	10	6	9	10	9
3. Technical Courses	5	12	8	12	13	12
4. Other	10	24	30	45	40	37
Total	41	100	67	100	108	100

Curriculum Problems -- this question provided 45 respondents from the 1980-86 group and 69 from the 1987-92 group. Of the 1980-86 and 1987-92 groups 12 and 14 respondents respectively, indicated either "*Too much residential emphasis*" or "*Too little commercial emphasis*" as the major problem with the curriculum. Other responses such as "*Too little hands on training*" and "*Courses are too easy*" were only mentioned a few times by each group.

The writer selected the following categories in which to place responses: 1. Focus (i.e. too much residential focus or too little commercial focus), 2. Lack of Rigor (i.e. courses too easy and lack of serious core courses), 3. Hands-On (i.e. lacks on site instruction, lacks work study, internship not required, etc.), 4. Required Courses (i.e. need more estimating courses, need additional management courses, need fewer general education courses, irrelevance, etc.), and 5. Other (i.e. large classes, too much memorization, discourages self-employment, too few faculty,

etc.).

Table 4.22 Curriculum Problems

Problem	1980-1986	%	1987-1992	%	Total	%
1. Program Emphasis	12	27	14	21	26	23
2. Lack Of Rigor	2	4	5	7	7	6
3. Lack Of Hands On Training	7	16	10	14	17	5
4. Required Courses	15	33	20	29	35	31
5. Other	9	20	20	29	29	25
Total	45	100	69	100	114	100

Courses To Add -- there were 91 respondents who elected to answer this question: 34 in the 1980-86 group and 57 in the 1987-92 group. Computer applications was indicated by 3, 1980-86 graduates and 14, 1987-92 graduates. Estimating, Project Management, Safety, and Communications were also mentioned.

In total there were 190 courses which respondents recommended for addition to the curriculum. A complete list of responses may be found in Appendix E.

Courses to add were categorized into 1. Computer Applications (i.e. Computer-Aided Drafting, Lotus, DOS, etc.), 2. Estimating, 3. Project Management, 4. Scheduling, 5. Safety, and 6. Other (i.e. civil engineering courses, utilities, negotiation skills, etc.).

Table 4.23 Courses to Add

Course	1980-1986	%	1987-1992	%	Total	%
1. Computer Applications	3	8.8	14	24.6	17	18.7
2. Communications	3	8.8	4	7.0	7	7.7
3. Estimating	2	5.9	4	7.0	6	6.6
4. Project Management	2	5.9	3	5.2	5	5.5
5. Safety	2	5.9	2	3.5	4	4.4
6. Other	22	64.7	30	52.7	52	57.1
Total	34	100.0	57	100.0	91	100.0

Courses To Delete -- 46 questionnaires were returned with an answer to this question, however, there was no consensus. There were 3 respondents in each group that indicated the BCM Introductory course as one to delete. Computer programming was indicated by 2, 1980-86 graduates, and by 3 graduates in the 1987-92 group. Other courses suggested for deletion were Physics, Biology, Chemistry, Humanities, and History.

There were a total of 60 courses recommended for deletion as well as 4 respondents who recommended the deletion of entire categories of such as Sciences. A complete list of courses recommended for deletion may be found in Appendix E.

Courses Where I'd Spend Additional Time If I Had It To Do Over -- more graduates answered this question than any other open-ended question: 39 from 1980-86 and 68 from 1986-92. Estimating appeared 7 times for the 1980-86 group and 17 times for the 1986-92 group. Finance was declared 5 times and 8 times, respectively, for the 2 groups. Accounting and Scheduling were mentioned by a few respondents in each group as well.

Table 4.24 Courses Where I'd Spend Additional Time If I Had It To Do Over

Course	1980-1986	%	1987-1992	%	Total	%
1. Estimating	7	17.9	17	25.0	24	22.4
2. Finance	5	12.8	8	11.7	13	12.1
3. Accounting	4	10.3	4	5.9	8	7.5
4. Scheduling	3	7.7	6	8.9	9	8.5
5. Other	20	51.3	33	48.5	53	49.5
Total	39	100.0	68	100.0	107	100.0

Specific Suggestions For BCM Program Improvement -- the most frequently reported improvement was related in some way to internships by the 36, 1980-86 graduates and 57, 1987-92 graduates who chose to respond. Of those who responded 9 in the first group and 11 in the second group indicated increased or required internships as a method of BCM curriculum improvement. Responses which were fewer in number included more commercial courses, additional communication courses, and allow for a specialty focus such as electrical, plumbing, and HVAC.

Total suggestions for improvement numbered 93. These suggestions may be found in Appendix E.

The writer selected the following categories in which to place suggestions for improvement: 1. Require internships, 2. Offer commercial construction emphasis, 3. Add communication courses, 4. Increase difficulty, 5. Other (i.e. seek alumni input, seminars by builders, job interviews with alumni, etc.).

Table 4.25 Specific Suggestions For BCM Program Improvement

Suggestion	1980-1986	%	1987-1992	%	Total	%
1. Require Internships	9	25.0	11	19.3	20	21.5
2. Offer An Emphasis In Commercial Construction	4	11.1	8	14.0	12	12.9
3. Offer Additional Construction Courses	4	11.1	7	12.3	11	11.8
4. Other	19	52.8	31	54.4	50	53.8
Total	36	100.0	57	100.0	93	100.0

CHAPTER 5

Findings, Conclusions, Discussion, Limitations and Recommendations

Introduction

This chapter is divided into six sections. The first section has a summary of the purpose and methodology of this research. The second presents a summary of the findings of this work. The third delineates the conclusions drawn from the outcomes of this research. The fourth section is the researcher's discussion of the study. Next limitations of the study will be highlighted. Lastly, recommendations for future research will be presented.

Summary

The study was conducted primarily to determine the perceived usefulness of courses taken by baccalaureate Building Construction Management alumni from Michigan State University.

A graduate follow-up study is a tool which can answer this question and others pertinent to the decision making process of B.C.M. curriculum evaluators.

The population is Winter Term 1980 through Summer Term 1992 Building Construction Management graduates from

Michigan State University. Fall semester 1992 graduates were not included. This population will be divided into two subpopulations, 1980-86 and 1987-92, which will be compared. Population mailing list totals were 454.

Those selected received a cover letter, questionnaire, stamped self-addressed return envelope, and reminders. The questionnaire and cover letter went through two pilot studies.

Findings

The researcher endeavored to determine whether, in the opinions of the graduates, the curriculum met their educational needs, needs of obtaining a job, and their continuing needs regarding success as adult members of the American society. Overall both of the subpopulations were content with their educations. However, suggestions for improvement were enumerated. Very few comments were of the malicious, spiteful, or vindictive variety.

Demographic information was reported on the 150 respondents. This information included

1) Number of respondents
2) Gender
3) Age at graduation
4) Ethnicity
5) State of residence
6) How the first job was obtained
7) Current employment status

8) Whether he/she is self-employed

9) Has he/she hired BCM graduates

10) Was the respondents first job construction related

11) Most valuable courses

12) How many have or will attend graduate school.

Five hypotheses were stated in the null fashion. Statistical significance was tested using the t-test of means of independent samples. Levene's test for equality of variances was used to ensure equal variances so they may be pooled.

Hypothesis #1 -- There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of General Education courses they took while attending Michigan State University.

Of the 24 General Education courses, only one -- Business Law -- had a significant difference the two groups. Business Law, demonstrated a statistically significant t-test, .012, at the $\alpha \leq .05$ level. The mean for the 1980-86 graduating classes was 2.0351 while the mean for the 1987-92 graduating classes was 2.4270. Therefore, the 1980-86 group perceived Business Law to be significantly more useful than the 1987-92 group. Hypothesis 1 was not rejected for this course group at the $\alpha = .05$ level.

Hypothesis #2 -- There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of Construction Design courses they took while attending Michigan State University. Of the 6 Construction Design courses, only one -- CAD -- had a significant difference between the two groups. CAD, demonstrated a statistically significant t-test, .008, at the $\alpha \leq .05$ level. The mean for the 1980-86 graduating classes was 2.78 while the mean for the 1987-92 graduating classes was 1.73. Therefore, the 1987-92 group perceived CAD to be significantly more useful than the 1980-86 group.

Hypothesis 2 was not rejected for this course grouping at the $\alpha = .05$ level.

Hypothesis #3 -- There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of Business and Management courses they took while attending Michigan State University. There was no significant difference between the two groups for any of the courses.

Hypothesis 3 was not rejected for this course grouping at the $\alpha = .05$ level.

Hypothesis #4 -- There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of Construction Technology courses they took while attending Michigan State University. There was no significant difference between the two groups for any of the courses.

Hypothesis 4 was not rejected for this grouping at the $\alpha = .05$ level.

Hypothesis #5 -- There is no significant difference between the 1980 through 1986 Building Construction Management graduates and the 1987 through 1992 Building Construction Management graduates regarding their perceptions of the usefulness of Management of Construction Operations courses they took while attending Michigan State University. There was no significant difference between the two groups for any of the courses.

Hypothesis 5 was not rejected for this grouping at the $\alpha = .05$ level.

Conclusions

The following can be concluded based upon an analysis of the dependent variables:

1. The BCM curriculum at Michigan State University is preparing graduates for careers in the

construction industry. Most respondents, 147 out of 150, indicated their first jobs were construction related.

2. The two subpopulations are mostly in agreement with regard to their perceptions of the BCM curriculum at Michigan State University.
3. Commercial construction courses should be offered in greater numbers and possibly a commercial emphasis should be offered. Fully 47% of the respondents stated that their first job was construction related, however, not in the residential area.
4. Architectural drafting is the most useful course and Biology the least useful course as perceived by the population.
5. Many BCM graduates currently have sales responsibilities indicating a possible need for sales courses.
6. A fair number of BCM graduates are in positions to hire BCM graduates as evidenced by 14.1% of respondents who said they have hired at least one B.C.M. graduate.
7. Communications courses, both written and spoken, were rated highly by the population: #5 and #12 respectively our of the 52 courses listed. This finding is consistent with the studies identified in the literature review.

Discussion

Based upon the findings and conclusions of this study, these recommendations are offered for consideration by the BCM faculty and administration:

1. A close look should be taken at offering more courses with a commercial construction industry slant.
2. Since many of the respondents in this study indicated a current involvement in sales, a sales course should be developed for the BCM curriculum. Perhaps a general sales course exists in the Business College and could be used as a model.
3. Additional emphasis should be placed on written *and* oral communications. This recommendation parallels findings and recommendations in the Stroup (1993) study. Such an effort could be integrated into every course in the curriculum.

Limitations Of The Study

The following factors are considered to be limitations of the study:

1. All 1980-92 BCM alumni were not accessible.
2. Only 1980-92 BCM graduates from Michigan State University were included in the study.
3. Time and money resources of the researcher limited the number of contacts with the potential respondents resulting in a 33%

response rate. Additional follow-up mailings and long distance calls to the population would have likely increased the response rate.

4. Respondent perceptions

Recommendations For Future Research

1. A periodic followup of graduates -- every 5 years.
2. Study the interactions between undergraduate G.P.A.'s and such dependent variables as starting salary, perception of curriculum, residential versus commercial etc.
3. Compare the data in this study to a similar study which has employers as the population.

APPENDICES

APPENDIX A

Cover Letter
(Letter Of Transmittal)

APPENDIX A

May 21, 1994

Dear BCM Graduate:

Parts of the construction industry are changing. Many practices which once worked on construction sites no longer work. Some past taboos are now considered to be good construction management practice. We need your help improving and updating the BCM curriculum and it

won't cost you ONE RED CENT!

I am completing my Master's thesis research under the supervision of T. Mrozowski in the Building Construction Management program of the Agricultural Engineering Department here at Michigan State University. My purpose is to evaluate how well, ***in your opinion***, the BCM program curriculum has served you.

By completing the enclosed survey you will provide this study with a most valuable source of BCM curriculum information: ***your*** impressions, constructive criticisms, and ideas for improvement. The data you provide will help the curriculum committee and BCM faculty adjust the curriculum to better serve our current and future students as well as the short and long range personnel needs of the construction industry.

I have enclosed a stamped self-addressed envelope for your convenience in returning the form. Please take a moment to complete the form and return it to us in the envelope provided. In order that BCM may get maximum benefit from your input, please return your survey form by ***May 31, 1994***. Graduates who participated in the pilot study indicated that the form takes only 10 - 15 minutes to complete. So we may ensure your anonymity, please don't place your name on the survey form or the envelope.

If you have any questions write to me, Marcus Metoyer, Jr., at the address shown or call me at home, (517)882-6379 after 6:00 p.m.

Thank you for your assistance and your time.

Sincerely,

Marcus Metoyer, Jr.
BCM Graduate Student

APPENDIX B

Questionnaire

Appendix B

Michigan State University
Building Construction Management
207 Farrall Hall

Attn: Marcus Metoyer
East Lansing, MI 48824

BCM Alumni
Program Improvement Study

Instructions: Please circle the correct response and fill in the blanks where appropriate. Return this document in the enclosed stamped, self-addressed envelope. If the envelope becomes lost or misplaced, please mail to the above address. You indicate your voluntary agreement to participate by completing and returning this questionnaire. **Thank you for your time and assistance.**

All Graduates Should Complete This Section

Year/Term started at MSU _____Yr./_____Term

Year/Term Graduated _____Yr./_____Term

1. Gender: (circle one) 1 FEMALE
   2 MALE

2. Current AGE: _____ years

3. Where do you reside? (please specify)

   STATE/PROVINCE_____

   Other _____

4. Ethnicity: (circle only one)
   1 Caucasian / White
   2 African American / Black
   3 Asian / Pacific Islander
   4 Mexican American / Latino
   5 Native American
   6 Other (specify)_____

5. Have you attended or are you planning to attend graduate school?
   1 YES If yes what degree will/have you receive/d: ☐ MA/MS, ☐ PhD/EdD, ☐ Other_____
   2 NO
   If yes, in what area or major._____

Complete This Section Only If You Have Held A Job Since Graduation. Otherwise, Continue With Question #9

6. First job after graduation. Please indicate whether construction related or non-construction related. *(Circle one)*
   1 CONSTRUCTION RELATED *(please specify job title)*_____
   Also indicate in which construction area you are employed: i.e. residential, commercial, industrial, etc..

   Construction Area_____

   2 NON-CONSTRUCTION RELATED *(please specify job title)* _____

7. First job starting salary. *(please round to the nearest $1000)*

   Salary $_____

8. If you did have a first job after graduation, how did you locate your first job: (circle only one)
   1 ON MY OWN
   2 HELP OF A FRIEND OR RELATIVE
   3 HELP OF AN INSTRUCTOR OR ADVISOR
   4 MSU PLACEMENT OFFICE
   5 EMPLOYMENT OFFICE
   6 OTHER (please specify) _____

Please open to continue.

Appendix B - *Continued*

Instructions For Rating Courses

9. The following courses were either required or elective in the BCM curriculum. Please circle the number in the column which best describes your rating of the course shown with regard to its job/skill value to you *personally*. If you did not take a particular course, circle #6 in the Not Applicable column. Respond only once for each course listed. Also, please circle the three (3) classes which were most valuable to you.

Course	Very Essential	Highly Useful	Somewhat Useful	Of Little Use	Of No Use	Not Applicable
Accounting	1	2	3	4	5	6
Advertising	1	2	3	4	5	6
Algebra/Trig	1	2	3	4	5	6
American Thought & Language	1	2	3	4	5	6
Architectural Drafting	1	2	3	4	5	6
BCM Introductory Course	1	2	3	4	5	6
Biology	1	2	3	4	5	6
Building Codes	1	2	3	4	5	6
Business Law	1	2	3	4	5	6
Calculus	1	2	3	4	5	6
Chemistry	1	2	3	4	5	6
Communication (speaking)	1	2	3	4	5	6
Communication (writing)	1	2	3	4	5	6
Computer-Aided Drafting(CAD)	1	2	3	4	5	6
Computer Applications (General)	1	2	3	4	5	6
Computer Programming	1	2	3	4	5	6
Construction Contracts	1	2	3	4	5	6
Construction Estimating	1	2	3	4	5	6
Construction Finance	1	2	3	4	5	6
Construction Law	1	2	3	4	5	6
Construction Materials	1	2	3	4	5	6
Construction Methods	1	2	3	4	5	6
Construction Productivity	1	2	3	4	5	6
Construction Scheduling	1	2	3	4	5	6
Cross-Cultural Studies	1	2	3	4	5	6
Ecology	1	2	3	4	5	6
Economics	1	2	3	4	5	6
English Literature	1	2	3	4	5	6
Foreign Language	1	2	3	4	5	6
Foundation & Soil Mechanics	1	2	3	4	5	6
History	1	2	3	4	5	6
Land Acquisition	1	2	3	4	5	6
Land Development	1	2	3	4	5	6
Law & Society	1	2	3	4	5	6
Management (Construction)	1	2	3	4	5	6
Management (General Business)	1	2	3	4	5	6
Management (Personnel)	1	2	3	4	5	6
Management (Total Quality -TQM)	1	2	3	4	5	6

Appendix B - *Continued*

Course	Very Essential	Highly Useful	Somewhat Useful	Of Little Use	Of No Use	Not Applicable
Management of Physical Systems	1	2	3	4	5	6
Marketing	1	2	3	4	5	6
Physics	1	2	3	4	5	6
Project Management	1	2	3	4	5	6
Project Management (Advance)	1	2	3	4	5	6
Psychology	1	2	3	4	5	6
Real Estate Finance	1	2	3	4	5	6
Spatial Design	1	2	3	4	5	6
Statistics	1	2	3	4	5	6
Surveying	1	2	3	4	5	6
Structural Design	1	2	3	4	5	6
Thermodynamics	1	2	3	4	5	6
Utilities (HVAC, Elec., Plbg.)	1	2	3	4	5	6
Western Civilization	1	2	3	4	5	6

REMINDER: *Please circle the three (3) classes which were most valuable to you.*

Current Employment Data
All Participants Should Enter This Section

10. Are you currently employed or attending school as a full time student? (circle only one)
    1 EMPLOYED
    2 FULL TIME STUDENT *(proceed to question #15 on back page)*
    3 UNEMPLOYED
    If unemployed, how long have you been unemployed? _____ Months: *(proceed to question #15 on back page)*

11. Are you currently self-employed? (circle only one)
    1 YES
    2 NO *(proceed to question #12)*
    If yes, how long after graduation did you become self-employed? (circle only one)
    1 LESS THAN 1 YEAR
    2 1 - 2 YEARS
    3 2.1 - 3 YEARS
    4 MORE THAN 3 YEARS

12. What is your current job title?

_____

13. What are your major duties?

_____

14. Have you hired BCM graduates since your graduation? (circle only one)
    1 YES
    2 NO

Continued

Appendix B - *Continued*

15. BCM curriculum advantages, from your perspective.

16. BCM curriculum problems, from your perspective.

17. Courses you would recommend adding to or deleting from the curriculum.

Add

Delete

18. List the courses in which you would spend additional time studying and preparing assignments if you knew then what you know now.

19. Specific suggestions for BCM program improvement.

Thanks Again For Your Time And Assistance.

Return This Form To:

Michigan State University
Attn: Marcus Metoyer
Building Construction Management
Room 207 Farrall Hall
East Lansing, MI 48824

APPENDIX C

Thank You -- Reminder Post Card

APPENDIX C

TIME IS GETTING SHORT

(Thanks If You Have Already Responded -- Reminder To Others)

If you have completed and mailed the BCM ***ALUMNI SURVEY*** form, **THANK YOU** very much for your help and input.

If you have not completed the ***ALUMNI SURVEY***, please take a few minutes to complete it now. **Your** input is vital to the continued success of the Building Construction Management program at M.S.U. and will be greatly appreciated. The deadline has been extended until ***June 7, 1994*** so, please return it A.S.A.P.

If your copy of the survey been lost or misplaced. phone or write to me and I'll mail another to you. I can also take your responses and requests for another survey form via FAX: the number is (517)371-4105.

Again, for those of you who have already responded, **thank you** very much.

Michigan State University
B.C.M., Attn: Marcus Metoyer, Jr.
207 Farrall Hall, East Lansing, MI 48824-1323
Home (517)882-6379 after 6: p.m., Work (517)371-4100 before 4:30 p.m.

APPENDIX D

Coding Scheme Of Variables

APPENDIX D

Coding Scheme
(SPSS/PC+ V5.0)

Variable	Description	Coding
STARTED	Year Started Classes @ MSU	Actual Year
GRAD	Year Graduated from MSU	Actual Year
AGE	Current Age Of Respondent	Actual Age
RESIDEN	State or Province of Residence	State/Prov./List Other
ETHNICIT	Ethnicity	1 = Caucasian/White 2 = African American/ Black 3 = Asian/Pacific Islander 4 = Mexican American/ Latino 5 = Native American 6 = Other
GRADSCH	Attending/Planning Grad School	1 = Yes 2 = No
FIRSTJOB	First Job	1 = Residential 2 = Commercial 3 = Residential/ Commercial 4 = Commercial/ Industrial 5 = All Above 7 = Highways and Bridges 8 = Non-Construction Related
SALARY	Starting Salary	Dollar Amount
JOBLOCAT	First Job Located How?	1 = Own 2 = Friend/Relative 3 = Instructor/Advisor 4 = MSU Placement Office 5 = Empl. Office 6 = Other

COURSE VARIABLES FOLLOW

Appendix D
Continued

Variable		Description	Coding
1	ACCOUNT	Accounting	1 = Very Valuable 2 = Valuable 3 = Neutral 4 = Not Too Valuable 5 = Useless 6 = Not Appl.
2	ADVERTIS	Advertising	Same as above
3	ALGEBRA	Algebra	
4	ATL	American Thought & Language	
5	ARCHDRAF	Architectural Drafting	
6	BCMINTRO	Introductory BCM	
7	BIOLOGY	Biology	
8	BULDCODE	Building Codes	
9	BUSLAW	Business Law	
10	CALCULUS	Calculus	
11	CHEMISTR	Chemistry	
12	COMSPEAK	Communications (Speaking)	
13	COMWRITE	Communications (Writing)	
14	CAD	Computer Aided Design	
15	COMPAPPL	Computer Applications (General)	
16	COMPPROG	Computer Programming	
17	CONCONTR	Construction Contracts	
18	CONSTEST	Construction Estimating	
19	CONFINAN	Construction Finance	
20	CONLAW	Construction Law	
21	CONMTLS	Construction Materials	
22	CONMETHO	Construction Methods	
23	CONPRODU	Construction Productivity	
24	CONSCHED	Construction Scheduling	
25	CROSSCUL	Cross Cultural Studies	
26	ECOLOGY	Ecology	
27	ECON	Economics	
28	ENGLIT	English Literature	
29	FORLANGU	Foreign Language	
30	FOUNDSOI	Foundation & Soil Mechanics	
31	HISTORY	History	
32	LANDACQU	Land Acquisition	
33	LANDDEVE	Land Development	
34	LAW&SOCI	Law and Society	
35	MANCONST	Management (Construction)	
36	MANGENBU	Management (General Business)	
37	MANPERSO	Management (Personnel)	
38	MANTQM	Management (TQM)	
39	MANPHYSS	Management of Physical Systems	

Appendix D (Continued)

Variable	Description	Coding
40 MKTG	Marketing	1 = Very Valuable 2 = Valuable 3 = Neutral 4 = Not Too Valuable 5 = Useless 6 = Not Appl.
41 PHYSICS	Physics	Same as above
42 PROJMGT	Project Management	
43 PROJMGTA	Project Management (Advanced)	
44 PSYCH	Psychology	
45 REALFINA	Real Estate Finance	
46 SPATIALD	Spatial Design	
47 STATISTI	Statistics	
48 SURVEY	Surveying	
49 STRUCDES	Structural Design	
50 THERMODY	Thermodynamics	
51 UTILITIE	Utilities	
52 WESTCIV	Western Civilization	

END OF COURSE VARIABLES & BEGINNING OF CURRENT STATUS AND OPEN ENDED QUESTIONS

STATUS	Current Status	1 = Employed 2 = Full Time Student 3 = Unemployed
SELFEMPL	Self-Employment Status	1 = Yes 2 = No
CURRTITL	Current Job Title If Employed	Actual Name
CURRADV	Curriculum Advantages	Key Word/s
CURRPRO	Curriculum Problems	Key Word/s
ADCOURSE	Courses to add	Key Word/s
DELCOUR	Courses to delete	Key Word/s
STDYMORE	Courses to spend additional time	Key Word/s
SUGGIMPR	Suggested BCM improvements	Key Word/s
PREF1	Preferred Course A	Course Number
PREF2	Preferred Course B	Course Number
PREF3	Preferred Course C	Course Number

The Following Variable Is Not A Part Of The Questionnaire

AGE@GRAD	Age At Graduation	Calculated With SPSS command, **COMPUTE**, where: AGE@GRAD = AGE + GRAD - 94

APPENDIX E

Open Ended Question Response Listings

APPENDIX E

Current Job Title Listing

RECRUITER
FIELD ENGINEER
PROJ MGR/ESTIMATOR
ESTIMATOR
C.M.
FIELD ENGINEER
PROJ MGR/ESTIMATOR
MGR LUMBER YARD
CODE ENFORC OFFICER
MGR PACKAGE BLDGS
V. PRES. VOLKERS BDS
PROJ MGR/ESTMR PURCR
SALES REP. ESTMTR
DISTRICT MGR
CONSTRUCTION MGR
UPS DRIV, RL EST INV
SALES REP. COMML
CONC DISPATCHER
MANAGER OF INSTALL
OWNER
RESIDENTIAL DESIGNER
ESTIMATOR
REAL ESTATE APPRAISE
VICE PRES/CHIEF EST
DIVISION MGR
PRESIDENT
ESTIMATOR
PROJ. MGR, COST ENG.
PRES. OF 2 COMPANIES
EST/MGR
PROJECT MGR.
VP/CEO, BLDG CENTER
SELF EMPLOYED
ASST. ADMINISTRATOR
PROJ. MGR. ESTIMATOR
CONSTRUCTION SUPVSR
CORP DIR. OF SAFETY
ASSISTANT MGR
PROJECT MGR.
FACILITY MGT SPECLST
TREASURER
PROJECT ESTIMATOR
PRESIDENT
PARTS PERSON
RL ESTATE APPRAISOR
REAL ESTATE SALES
DIR. OF CONSTRUCTION
OWN/PRTNR RL ES COS
OWNR BLDG PROD/CONST
PJT MGR/COORDINATOR
TEST TECHN - FORD CO
REAL ESTATE SALES
OWNER: 3 RESTAURANTS

APPENDIX E - Continued

Current Job Title Listing

FLD SUPERINTENDENT
ASST BUS/TRADE SUPV.
MAT SELCTN, SERV SUP
ENVRNMTL ANALYST
CIVIL/MECHNL PLANNER
OPERATIONS MGR
CARPENTER FORMAN
PROJ MGT, COMM CONST
OWNR: POURED WALLS
ATTORNEY
GEN CONTACTOR, BLDER
PRODUCT CONTROL MGR
SALES REPRESENTATIVE
PROJECT MGR
VICE PRESIDENT
ELECTRICIAN
PROJT ESTIMATOR
EXC VICE PRES
OWNER OF CONSTRN CO
PROJECT MGR
SUPERINTENDANT
ATTORNEY
VP
DESIGN CONSUL, SALES
ENGINEER
PERSONNEL DIRECTOR
SUPERINTENDENT
ENGR GROUP MANAGER
CONSTRTN SUPERINTDNT
CONSTRUCTION MGR
OWNER/SCHEDULING
PROJ ENGINEER
PROJECT MGR
SLES/SERV CONSTN EQP
CUSTOM HOME BUILDER
MRI SHIELDING ENGR
CONSTRTN MGR
OWNER
CONSTRUCTION MGR
CARPNTR/PROJ MGR
CONSULTANT
SALES CONSULTANT
PROJ CONTROLS ENGNR
VICE PRESIDENT
SUPERINTENDENT
PROJ MGR
ESTIMATOR
OPERATNS COST MGR
OWNR RESD BLDG CO.
CONTROLS MGR
SR. PROJ MGR
SUPERINTENDENT
PRES. BLDG COMPANY

APPENDIX E - Continued

Current Job Title Listing

PRODUCTION MGR
CONSTRUCTION MGR
CONSTRN SUPERINTDNT
OWN CONSTRN COMPANY
OWNER
RESDL PROJ SUPRTDNT
VP RESDTAL CONSTRN
MANUFACTURER'S REP
VICE PRESIDENT
NATNL CONTRC COORDTR
PROJ MGR
PRESIDENT
RESDL RL ESTAT APPRA
GENERAL CONTRACTOR
VP, PROJ MGR
VICE PRES
ESTIMATOR
CONSTRTN MGR
OWNER/PAINT CO,ACTNG
VICE PRES
DIR. OF ARCHETECTURE
SALES
MORT LOAN ORIGINATOR
PROJ SUPERINTENDENT
RESDTL ENG
ARCH SALES CONSULTNT
SALES REP/ESTMATOR
SENIOR ESTIMATOR
PROJ ENGINEER
CUST SERVICE MGR
REAL EST. REPRESENT.
NATIONAL ACCT EXEC.
PRESIDENT/BUILDER

Number of cases read = 150
Number of cases listed = 150

APPENDIX E - Continued

Job Duties Listing

RECRUIT EMPLOYEES
LAYOUT, ASST SUPER.
MANAGEMENT/ESTIMATIO
ESTIMATION
MANAGEMENT
MANAGEMENT/ESTIMATIO
MANAGEMENT/ESTIMATIO
ORDERING/MTL ACQUISI
ENFORCE CODES
MAN. RES. DES. DPT.
ACC. SCHEDULING, SUP
EST JOBS, PUR. MATRL
ESTIMATING
MNG 4.5 MIL CONST CO
SCHE, SUPV RES DEVEL
DELIVERY, PROP RENTL
EST,PROJ M, SLS,PURC
SCHED,INVEN,ORDER
MANAGE INSTALLATIONS
ALL
EST,CUST REL,SALES,
TAKE OFF,ORDER MTLS
GENERAL APPRAISAL
PRE CONSTR SERVICES
MANAGE ALL OPER.
EVERYTHING & NOTHING
BID JOBS, AFFIRM ACT
SCHE, CNTRCTS,PROCUR
ALL PHASES OF OPRATN
EST, COORDN,PROJ MGR
RUN PROJ START-FINSH
OVERSEE OPERATIONS
EVERYTHING
ASST. ON SITE/OFFICE
EST, SALES, INV, SUP
SCHE, SITE MGT, INV.
COMPANY WIDE SAFETY
SCHD, INVENT, LABOR
TOTAL PROJ. CONTROL
MAN. ALL NAT GURD BD
SALES, EST, MGT.
NEG CONTS, DO PROPSL
EST, CARPENTER, MGR
CUSTOMER SERVICE
APP. RES REAL ESTATE
NEW SUBDIVISION SLES
PROJ MGT MIDWEST US
ALL OWNRSHP DUTIES
MORTGAGE PROCESSING
RUN OWN BUS & SALES
DSGN, CONSTN ADMNSTN
DEV TESTNG NEW ENGS
JOB SFTY, SUP, COMM.

APPENDIX E - Continued

Job Duties Listing

SELLING
HIRE, TRN, FINC, ACC
BUILD HOUSES, BG-END
PREPARE CONST SPECS
CHK SITES, CUST ASST
COMPLNCE/W WASTE ACT
EST, SCH, COOR SUBCN
RUN PROJ OPERATONS
BLDG LAYOUT, JOB MGT
OVERSEE ENTIRE PROJ
SCHD, SUP, SLS, CUST
FULL TIME RL EST INV
RUN COMPANY
ENRNG, PROCUMT, COOD
ACC, SALES, QUOTING
EST, CNTRCT NEG, MRG
PJT MGT, SALES, NEGO
RES & COMM WIRING
EST COMMERCIAL PRJTS
MGT & CONSTN COUNSLG
ALL ASPECTS OF BUS
CNTRS, PRO SCH, BUDG
ALL PHASES OF CNSTRN
LAW
ALL ASPECTS/PRODTION
RUN BUSINESS, SALES
SALES REP
DESIGN,EST,CONTR NEG
HUMAN RESOURSES
SCHED, QUAL CNTROL
DESIGN, CONSTR
QUAL & COST CONT, SC
BID, EST, SCH, SUPRV
SCHED, QUALITY CONTR
COORD SUBCNTRTS,
ALL ASPECTS OF BUSI
SALES, ORDERING
DESGN/DEV MRI SHILDS
MKTNG, CNTRT NEG,
HOME BUILDER
ALL ASPECTS OF CONST
SITE SUPERINTENDENT
PROJ MGR, SCHEDULING
NEW HM SALES, DOCMTS
SCHED: LRGE IND PROJ
EST, PROJ MGT
LIAZON BET CUST/BLDR
CONTRS, BIDS, SCH/ES
EST, BUDGET, SCHE,
MANAGE COST & ACC
OVERALL MGT
EST, NEG, CONTRS,SCH
EST, CONTS/NEG, MGT
ALL SUPNTDNT DUTIES
EVERYTHING

APPENDIX E - Continued

Job Duties Listing

COST/QUAL/PERS CONTL
RESTAURANT CONSTRN
SIZE MGT, SCHD, EST
EVERYTHING
EVERYTHING
SCHD, CUST SERV,
PLANING, PERSNL, P/L
SALES TO GMT
ACCTNG, GEN CONTRTNG
NATL ACCTS
SUPVSN RESTL REMODLG
SLES, EST, SCHD, SUP
RESDTL RL EST APPRSL
PROJ MGT, EST, DESGN
ADMINTRN, EST, MGR
PROJ EST, SUPVSN,DSN
COST CALC, NEG, SERV
RUN LARGE SUBDIVISON
EVERYTHING
RUN COMPANY
SPACE LAYOUT, DESNG
OUTSIDE LUMBER SALES
ORINTN OF RES MORTGE
SUPV ALL CONSTRCTN
OWNER REPRESENTATIVE
SLES, SPEC WRITING
QUOTE PROJ, BUT MATL
CONTRCT NEG, BUYER
SCHD, CHANGE MGT
WARRANTY SERVICE
ACQUISITION
SALES
GENERAL MGT.

Number of cases read = 150
Number of cases listed = 150

APPENDIX E - Continued

Curriculum Advantages Listing

WELL ROUNDED
USEFUL COURSES
COMPUTER COURSES
PREP FOR REAL WORLD
TECH TRAINING
INTERRACTION BETWEEN STUDENTS AND FACULT
PREP FOR REAL WORLD
FACULTY KNOWLEDGE W/FIELD EXPERIENCE
BIG 10
WELL ROUNDED
WELL ROUNDED FOR GENERAL ASPECTS OF CONS
LRN MGT SKILS & BASIC CONSTRUCTION PRAC.
CRONS REAL CONST. WORLD EMPHYSIS TCHING
WELL ROUNDED VIEW OF CONSTRN INDUSTRY
WELL ROUNDED
SMALL CLASSES
WELL ROUNDED
GOOD INSIGHT ON NEW MTLS, CONSTR METHODS
GOOD MIXTURE OF BUS & CONSTR MGT
VERY WELL ROUNDED
ELEC. FLEXIBILITY,MGT COURSES, GRP PROJS
DIVERSE COURSE SELECTION
NOT TOO MUCH MATH, GOOD TEACHERS
MGT SKILLS, ESTIMATING
WELL ROUNDED, CRON, MROZOWSKI
BUSINESS CLASSES & ELECTIVES
PRACTICAL & DRAFTING EXP, EST, TEACHERS
GOOD PROGRAM
GOOD OVERALL UNDERSTANDING OF FIELD
WELL ROUNDED PROGRAM
WELL ROUNDED
WELL ROUNDED COMPARED TO ENGINEERING
WELL ROUNDED, CREATES A KNOWLEDGE BASE
WELL BALANCED BETWEEN LIB ARTS & TECH
WELL ROUNDED GENERAL CONSTRUCTION PRGM
HELPED DEFINE CAREER GOALS WH/ISN'T BCM
HELPS ANS CONSTRUCTION RELATED QUESTIONS
GOOD WELL ROUNDED CURRICULUM
WELL ROUNDED
GOOD FOR RESIDENTIAL CONSTRUCTION
WELL ROUNDED FOR CONSTN RELATED OCCUPTNS
GIVES UNDERSTANDING OF CONST. FIELD
HELPS IN RUNNING RES RENTAL PROPERTY BUS
COMBINED GEN BUS CLASSES WITH CONST MGT
GOOD BLEND OF BUSINESS AND TECHNICAL
NONE
WELL ROUNDED
WELL ROUNDED
CLASSES HAVE REAL LIFE APPLICAITION
DOWN TO EARTH APPROACH
GIVES VARIETY OF CARR OPTIONS, RL EST FN
DRAFTING HELPED IN READING BLUEPRINTS
INDIVIDUAL ATTENTION, FAMILY ATMOSPHERE

APPENDIX E - Continued

Curriculum Advantages Listing

DIVERSE AREAS OF STUDY
BEST WELL ROUNDED PRGM AVAILABLE
HANDS ON EXPERIENCE FROM TEACHNG STNDPT.
OVERVIEW OF SING & MULTI FAMLY RES CNSTN
GOOD PREPARATION FOR THE BUSINESS WORLD
WELL ROUNDED, DLS/W CONSTRN PERSONNEL
PERSONALIZED, APPROACHABLE INSTRUCTORS
GOOD OVERVIEW OF CONSTRUCTION INDUSTRY
GOOD KNOWLEDGE BASE OFFERED BY COURSES
WELL ROUNDED COURSE OFFERING
TEACHING DONE BY BLDG CONSTRUC. PROFFES.
WIDE PERSPECTIVE OF INDUSTRY
LEARNED ALOT
LAW, FINANCE, CONTRACTING, ESTIMATING
PREPARES FOR LEARNING ON THE JOB
BROAD INFORMATION BASE, WITH CONSTRN BUS
WELL ROUNDED
BROAD PERSPECTIVE
LEARNED THE MOST FROM INTERNSHIP
WELL ROUNDED, GOOD INTERNSHIPS
COMBINES CONSTRUCTION WITH BUSINESS
ENGINEERING & BUSINESS SCHOOL CLASSES
GOOD BASE
PREPARATION FOR JOB
KNOWLGE OF CONSTRTN METHODS & MATERIALS
BROAD UNDERSTANDING OF CONSTRTN MGT
WELL ROUNDED EDUCATION
GOOD PROGRAM
GOOD OVERVIEW OF RESIDENTIAL CONSTRUCTN
JOB COST, EST, BLDG TECHNIQUES, MATERLS
WELL ROUNDED PROGRAM
BROAD OVERVIEW OF CONSTRUCTION INDUSTRY
STRONG RESIDENTIAL FOCUS
VERY FOCUSED, GOOD OVERALL BASIC CONSTRN
MOST COURSES GAVE TRUE LIFE SCENARIOS
GAVE BUSINESS END OF CONSTRN:DO'S, DONTS
SELF EMPMT FOCUS, PRGM INFO USED DAILY
UNIQUE INDUSTRY REQUIRES FORMAL EXPOSURE
GOOD CORE PROGRAM
EASY COURSES
COMBINES BUSINESS WITH CONSTRUCTION
ARCHETECTURE VERY HELPFUL
WELL ROUNDED PRGM, HELP/W MOST FACETS
WELL ROUNDED
GOOD BASIC PROGRM
BUSINESS & BCM CLASSES GIVE EDGE
VERY GOOD COURSE
GIVES WELL ROUNDED VIEW OF CONSTRN INDRY
COVERED ALL AREAS OF CONSTRCTN MGT
EASY JOB PLACEMENT FOR STUDENTS
BCM COURSES HELPFUL
GOOD ENTRY LEVEL INFO FOR RESIDENTIAL

APPENDIX E - Continued

Curriculum Advantages Listing

EST, SCHDLNG, ARCH DRAFTING
NETWKING, WELL ROUNDED, INVOLVED INSTRTR
GOOD FOCUS AND PREP FOR JOB MARKET

Number of cases read = 150
Number of cases listed = 150

APPENDIX E - Continued

Curriculum Problems

FINDING A JOB
FINDING A JOB
IRELEVANT REQUIRED COURSES
NEED MORE T.A. HELP - TOO MUCH MEMORIZIN
MORE TIME ON TECH. ISSUES
LITTLE COMMERCIAL IN CURRICULUM
SOME ELECTIVES SHOULD BE REQUIRED
MORE HANDS ON
LARGE CLASSES / NO OJT REQUIREMENT
NOT ENOUGH MGT. CLASSES
TOO MUCH RES.EMPYSIS, TOO LITTLE COMM.
TOO MUCH RES, TOO LITTLE CONST. INDUSTRY
TOO MGT FOCUSED, TOO LITTLE TECNHICAL
HANDS ON TRAING, TAKE HOME VIDEO TAPES
TOO MUCH RESIDENTIAL
INSTRUCTORS NEED MORE EXPERIENCE
LACK OF CONSTR RELATED MGT COURSES
TOO FEW FACULTY, SOME STUCK ON THEMSLVS
TOO MUCH RES. EMPHASIS
NUMBER OF COURSES REQD
REQUIRE MORE MATH
NOT ENOUGH TECHNICAL COURSES REQUIRED
TOO MUCH RES, NEED NATIONAL ACCREDIDATN
BAD FACULTY ATTITUDES RUINS ATMOSPHERE
NEED MORE OF ALL ASPECTS OF COMMERCIAL
TOO BROAD, TOO LITTLE COMMERCIAL FOCUS
NO JOB PLACEMENT
NEED MORE CONTRACT/SUBCONTRACT CLASSES
MORE COMM, COMP, PBM, ELEC, MECHANICAL
BCM COURSES TOO EASY
DISCOURAGES SELF EMPLOYMENT
STEADY UPDATE OF NEW TECHNIQUES/MATERIAL
NEED MORE ENGINEERING FOR JOB MARKET
PRGM UNSUITABLE FOR AGRICULTURAL ENG DPT
TOO MUCH RES, NOT ENOUGH COMMERCIAL
MORE FOCUS ON COMMERCIAL CONSTRUCTION
NOT ENOUGH HANDS ON TRAINING
NON-BCM RELATED BUS COURSES WASTE TIME
NOT A WELL ROUNDED EDUCATIONAL PRGM
LACKS CONSTRN SITE EXPOSURE FOR STUDENTS
STIGMA ASSOCIATED WITH AGRICLTRL MAJOR
TOO MUCH OVERVIEW, NOT ENOUGH DETAIL
NOT ENOUGH FOCUS ON COMMERCIAL CONSTRN
LACKS HANDS ON EXP, TOO MUCH CLASS INSTN
GIVES JOB EXPECTATIONS BEYOND REALITY
NEEDS MORE COMMERCIAL/W INTERNSHIPS
NONE
COUSE OVERLAPS OF SAME MATERIAL REPEATDL
MANY PEOPLE UNFAMILIAR/W THE PRGM
LACKS ENOUGH DSGN & ART/DRAWING CLASSES
NOT QUALIFIED TO ANS: OUT OF SCH TOO LNG
NEED MORE FOCUS ON COMM/INDUSTRIAL CONST
ACC, RL ES, COMP, SHOULD BE RUN THRU BCM
NO AREAS FOR CONCENTRNG STUDY
NOT ENOUGHT COMM FOCUS, TOO MUCH RESDL

APPENDIX E - Continued

Curriculum Problems

CORE CLASSES TOO EASY, MORE QUALIFIED INSTRS
STDNS/W WIDE RANGE OF INTEREST & BKGRNDS
MORE ON SITE VISITS
TOO EASY, NEED MORE TECH CLASSES
BUS WORLD THINKS PRGM IS ONLY RESIDENTL
MORE WRITNG, SPKNG, PRJT MGR CLASSES
NOT ENOUGH CLASSES, NEEW CIVIL ENGNG MIN
NEEDS INDSTRL, INSTITNL, COMM CONSTRCTN
LACKS SUFICNT SURV, CIVL ENG, LD DEVPMT
DOESN'T REQUIRE INTERNSHIP PARTICIPATION
PGRM TOO LOCALIZED, IGNORES NTL TRENDS
NEEDS TRADES MGT COURSES
NOT ENOUGH LAND DEVELOPMENT COURSES
MORE TECH RATHER THAN MNGT EMPHASIS
LACK OF RIGOR
COURSE OFFERING CONFLICTS WHEN 1 PER YR.
LACK OF SERIOUS CORE CLASSES
HANDS ON INTERNSHIP LACKING
LACKS EMPHYSIS ON ACTUAL CONSTRN SITUATN
POOR INSTRCTORS, STDNTS DO WK FOR FACLTY
WEAK ON COMMERCL FOCUS: BLDG METS & MATR
REPETITIVE INFORMATION
ESTNG TOO VAGUE, NO JOB SEARCH PREPARATN
LACK OF INSTRS/W PRACTL EXP, WEAK RESDNL
LACKS PROJ MGT & SCHEDNG
SOMETIMES TOO TIME CONSUMING
LACKS GEN COMP SOFTWARE: LOTUS, WD PRFT
JACK OF ALL TRADES, MASTER OF NONE
NOT ENOUGH HANDS ON PARTICIPATION
LACKED COMPUTER USAGE CLASSES IN THE 80S
JOB EXP, INTERNSHIP
TOO EASY
LACK ENOUGH COMM & CONSTRN MGT TECHNQUES
LACKS SCHLNG, EST, SPECIALTY CLASSES
WEAK COMMUNICATION REGARDING PEOPLE
TOO RESIDENTIAL ORIENTED
LACKS ON SITE HANDS ON EXPERIENCE
LACKS: WK STUDY, REMODLNG EST/MGT CLASS
LACKS: SCHDNG, COMMTNS, BUDGET MGT
LACKS HANDS ON EXPERIENCE
SOME TEACHERS ATTITUDES
TOO MUCH RESIDTL, LACKS COMMERCIAL
MORE EMPYSIS ON PROBLEM SOLVING
TESTING NOT ALWAYS REFLECTIVE OF ABILITY
PRGM NAME UNIMPRESSIVE TO CLIENTS
NEEDS HEAVY COMMECL/INDUSTRL, EST, LAW
NEEDS REAL LIFE SITUATIONS
ON SITE PROBLEM SOLVING NEEDED
ALL CLASSES ARE GOOD
NEEDS MORE STRUCTURAL DESIGN
EMPLOYMENT COUNSELING NEEDED
LACKS ENOUGH COMMERCIAL/INDUSTRIAL FOCUS

APPENDIX E - Continued

Curriculum Problems

LACKS ON SITE EXP & COMMERCIAL FOCUS
TOO MUCH RESIDENTIAL
LACKS COMMERCIAL FOCUS
NEEDS MANDATORY CAD CLASS
SOME CLASSES GAVE TOO MICH INTO TO LEARN
TOO MUCH RESIDENTIAL EMPHASIS
TOO MUCH RESIDENTIAL EMPHASIS
TOO MUCH FOCUS ON INSTRUCTOR SUCCESS

Number of cases read = 150
Number of cases listed = 150

APPENDIX E - Continued

Courses To Add Listing

TOPOGRAPHY, SURVEYING
BUSINESS COURSES
EPA ISSUES
MORE UTILITIES, NEGOTIATION, SUBS NEGO
CM
PUBLIC RELATIONS AND INTENSIVE SAFETY
123/EXCELL/ADV ESTIMATING
NONE
PERSONNEL MGT, MORE WRITTEN & ORAL COMM.
CONS CNTRC, FED SDRS, ADA, OSHA, PUB/HLT
HANDS ON TRADE:WIRING, PLMB, ETC.
COMPUTER APPLICATIONS
CONSTRUCTION CONTRACTS
LAND DEVELOPMENT, R E MKTG
CONST. LAW, COMP. APPLICATIONS IN CONST.
VALUE ENGINEERING/COST OPTIMIZATION
RESIDENTIAL BUILDERS LICENSING CLASSES
CONSTRUCTION CONTRACTS
BUSINESS CLASSES
ELECTRICAL, MECHANICAL, PLUMBING
MANDATORY INTERNSHIP
ENTREPENEUR/FINANCIAL FREEDOM CLASSES
MORE CAD CLASSES, PROBLEM SUPVSN CLASS
CIVIL, MECH, ELEC & ENVIRONMENTAL CLASS
BLUEPRINT RDG & INTERPRETATION
EST, SCHD, MTRLS, CONTS, COMP, BLUPRINT
ON SITE MGT, BLUEPRINT READING
LAND DEV, ALL FORMS OF COMMUNICATION
INTERNSHIP WAS MOST EDUCATIONAL
HANDS ON CARPENTRY TRNG, LABOR RELATIONS
MORE ADVANCED CLASSES IN ALL AREAS
PERSONAL COMPUTER TRNG, SALESMANSHIP
CAD, MORE VARIEY OF MGT CLASSES
SAFETRY: ASBESTOS, SCAFFOLDING, GFI
EMPLOYEE MGT
MORE BUSINESS WRITING & SALES
MORE COMMERCIAL CONSTRUCTION CLASSES
ART, 3D ARCHITECTURAL DESIGN
CONSTN COST CONTRL, RISK MGT, PRDVTY STU
COMP EST, SCHEDULING
ADD PROJ MGT, EST, CONS LAW, CONTRS, CAD
COMP, SALES, MERGE CE COURSES/W BCM
MGT, ALL FORMS OF COMM SKILLS
MORE SCHEDULING & ESTIMATING CLASSES
ADD STATS, STRCTS, EST, BLUEPRINTS
CNTRC NEG DEALING WITH AIA,401,201,101,107
CAD, SURVEYING
INDSTL/INSTITNL CNSTRN TECHNQS & SYSTEMS
URBAN DEV OPTION FOR STUDENTS
MANDATORY INTERNSHIPS
NEG SKLS, DOS/LOTUS, CUST REL, MKTNG
MKT ANALYSIS,
URBAN DEVELOP, MULTI-FAMILY
MORE TECHNICAL COURSES
INTERNSHIPS, COMMUNICATIONS
CONSTRUCTION PROBLEM SOLVING

APPENDIX E - Continued

Courses To Add Listing

CONSTRN SUPVSN, SCHEDNG, BLUEPRNT RDNG
HANDS ON CLASSES, VISIT CONSTRN SITES
MANDATORY INTERNSHIP ESPECIALLY COMMERCL
ACC FOR SML CONS BUS, EST FOR REMODELING
MORE REAL ESTATE COURSES
BONDING, INSURCE, ADA/FIRE SAFETY CODE
CONTRTS ADMIN, SCHEDNG, PURCHASING
ADV SCHEDNG, CONTRNG: ENVRNMTL & GOV'T
SCHED, EST, INDUSTRIAL, COMMERCIAL
MGT, TQM, DRAFTING, STRUCTURES, FRAMING
COMPUTER CLASSES FOR ESTNG & SCHEDULING
BLDRS LICNSE EXAM, NEW BUS START/UP COST
NEGOTIATIONS
TQM, COMMCL, CONSTRN MGT
STRUCTURE & SCHEDULING
INTERPERSONAL COMM, BUSINESS NEGOTIATION
INTERNSHIP, EMPLOYEE MGT
BLDR ETHICS, REMODLNG EST, PUBLIC COMM
LARGE CORPORATION OPERATIONS
HANDS ON EXPERIENCE
EST, TAXES, COST ACCOUNTING
TECHCL WRITING, COMP SOFTWARE, BUSINESS
ESTIMATING & SCHEDULING
SURVEYING, COMPT USAGE/W CONSTRN PRGMS
MANDATORY INTERNSHIP
COMPT EST, CONTRCT MGT, AIA DOCUMENTS
SUBCONTRACTOR SPEACHES/SEMINARS
SCHD, COST/QUAL CONTRL, FIRST AID CLASS
STRUCTURAL DESIGN, ENGINEERING
MORE ARCHETECHTURAL DRAWING CLASSES
ON SITE MGT, OFFICE MGT, EST, BID PREP
CAD, SURVEYING, CIVIL ENGINEERING
CONTRCTOR RELATIONS, PROFESSNAL CONDUCT
BUSINESS PLANNING, MORE FINANCE
CPM, ORGANIZATION, MORE INDUS. SPEAKERS

Number of cases read = 150
Number of cases listed = 150

APPENDIX E - Continued

Courses To Delete List

SCIENCE COURSES
SENIOR SEMINAR
NONE
NONE
SPATIAL DESIGN
PHYSICS
LAW, REAL ESTATE FINANCE
BCM INTRODUCTORY
MGT302
COMPUTER PROGRAMMING
REAL ESTATE FIN. COMBINED/W CONST. FIN.
BCM INTRO, REAL ESTATE FINANCE
BCM INTRO
STATISTICS
SENIOR SEMINARS
HUMANITIES
BCM INTRODUCTORY CLASS
NOT SURE
URBAN PLANNING
FINANCE, MGT, NON-BCM COURSES
PHYSICS
HISTORY, LITERATURE
USELESS INTERNSHIPS - NOT LEGITIMATE
ECONOMICS, CHEMISTRY
STATISTICS
GENERAL: RL ESTATE, ACCT, HUMANITIES
RL ESTATE & LAND DEVELOPMENT
OVERLAP COURSES: RL EST FIN, CONST FIN
BIOLOGY, CHEMISTRY, PHYSICS
BCM INTRO, STRUCTURAL DESIGN
CONSTRUCTION MATERIALS, T
CALC, ECOLOGY, HISTORY, THERMODYAMICS
BIOLOGY, ACCOUNTING
CROSS CULTURAL STUDIES, ECOLOGY
PSYCHOLOGY
COMPUTR PRGMNG, PSYCOLOGY, ATL
WESTERN CIVILIZATION
COMPUTER PRGMNG, PRIMARILY RESIDENTIAL
HUMANITIES, NON-ACCT DEPT ACCT CLASS
PHYSICS, COMPT PRGM, CALC, ENGNG CLASSES
ALL BCM CLASSES UNDER 300 LEVEL
ACCTNG 101
MANUF. HOUSING: NEED AS ELECTIVE ONLY
PSYCHOLOGY
BCM INTRODUCTORY COURSE
SCIENCES

Number of cases read = 150
Number of cases listed = 150

APPENDIX E - Continued

Courses In Which Respondent Would Study More If He/She Had It To Do Over

PROJ MGT, CONSTR FINANCE
SURVEYING, CIVIL ENGINGEERING
CONSTR FINANCE, MARKETING, SALES
REAL ESTATE, PROJECT MANAGEMENT
COMPUTER COURSES, HVAC, SCHEDULING, ELEC
STRUCTURAL DESIGN, PLANNING, PROJ MGT.
ATM311, UTILITIES, CONTRACTS, CM
MATERIALS, STRUCTURAL DESIGN
COMMUNICATIONS (WRITING)
GENERAL BUSINESS MGT.
COMPUTERS
RL ESTATE LAW, PROPERTY MGT. LAW
DRAFTING, MARKETING
MOST CLASSES
INDEP. STUDY
SCHEDULING, CAD, ESTIMATING
ESTIMATING, SCHEDULING, UTILITIES
JUST ABOUT EVERY COURSE
ACCOUNTING, WRITING, FINANCE, MGT
CONTRACTS,ESTIMATING,CONSTR LAW
R E MKTG, COMPUTERS
CONST. MATERIALS, SOIL MECHANICS
CONSTRUCTION PRODUCTIVITY & SCHEDULING
FINANCE, CONSTRACTS
CONTRACT SPECIFICATIONS FOR COMMERCIAL
UTILITIES, EST, SCH, FNDATN & SOIL MECH
WOULD HAVE CHANGED MY MAJOR
CONTRACTS, LAW
BISUNESS LAW, ACCOUNTING, ECONOMICS
SCHEDULING COURSES, TIME MGT.
EXPLAINATION OF THE CONSTRUCTION INDUSTY
BLDG CODES, BUS LAW, ARCH DRAFTING, COMP
ACCOUNTING, ALGEBRA, TRIGONOMETRY
BCM 312 & 313, REAL ESTATE FINANCE
WOULD DO THE SAME AS BEFORE
BLUPRNT RDG, EST, PROJ MGT, COMMUN, CONT
CODES, CAD
MORE DESIGN COURSES, CONSTRN IS AN ART
BIOLOGY, ORAL COMMUNICATION, PHYSICS
COMPUTERS
CONSTRUCTION SCHEDULING, COMMUM. SPKNG
FINANCE
PERSONAL COMPUTER TRNG, SALESMANSHIP
CAD, MGT, BUSINESS ASPECTS OF BCM
COMMUNICATION WITH SUBCONTRACTORS
ESTIMATING, BUSINESS LAW
REAL ESTATE FINANCE, BUSINESS LAW
STRUCTURES, KEEP BETTER NOTES
EST, LND DEV, SCH, ARC DGN, SPACIAL DGN
RISK MGT, SCHD, SITE LOGISTICS, SPEACH
COMP EST, PROJ MGT, PROJ SCHEDLNG
ESTNG, CONSTRUCTION LAW & CONTRACTS
CONSTRUCTION MGT
RSL EST FINANCE, ALL COMM COURSES
DRAFTOMG I, CONSTRUCTION FINANCE

APPENDIX E - Continued

Courses In Which Respondent Would Study More If He/She Had It To Do Over

ACC, EST, CONSTN SURV, COMPUTER APPLTN
CNSTRC FIN, MKTNG, LD ACQ & DEV, CONTRCS
STATS, DYNAMICS
BUS CNSTRN LAW & FIN, LD AQTN & DEV, CML
CONSTRUCTION ESTIMATING
IN DEPTH SCH CRSES, EST, BIDNG, CNTR ACC
PRSNL MGT: SUBCNTRCTORS, EMPLYES, PRDVTY
ECONOMICS, ACCOUNTING, COMMUNICATIONS
ACCOUNTING
MANAGEMENT, ACCOUNTING
ESTIMATING, STRUC DESIGN, DRAFTING
SCHEDULING, PROB. SOLV., COMMUNICATIONS
AR DRAFT,STRUC DES, CODES, PROJ MNGT
STRUCTS: 3 OR MORE TERMS, ESTMTNG, CAD
BUILDING CODES, DRAFTING
PSYCHOLOGY, COMPUTER APPLICATIONS
CAD, COMMERCIAL CONSTRTN TECHNIQUES
CONTRACTUAL LAW, DETAILS OF EACH TRADE
SUBDIVISION LAYOUT AND DESIGN, URB PLNG
SCHEDULING
CONTRACTS, FINANCE
UTILITIES, LD ACQ & DEV, STRUTRAL DESIGN
STRUCTURES, EST, DRAFTING
STRUCT DESIGN, GENERAL MGT
COMPTR EST/DRAFT, WRITING, SCH, ACC, ANA
JOB COST & BIDNG, CIVL ENG, SUBDVSN DESN
ESTMTNG, COMM FINANCE
CONSTRUCTION MGT
SCHEDLNG, ESTIMATING
STRUT DESIGN, CONSTRN MGT
STRT DESIGN, MGT, EST, & ALL CLASSES
REAL ESTATE FINANCE, STRUCTURAL DESIGN
INTERPERSONAL COMMUNICATIONS
ALL OF THE CLASSES
PROJ MGT, COMM, COST EST, CONSTN MATERLS
PROBLEM SOLVING, MATERLS, SCHDNG, PSYCGY
CONSTRN LAW, UTILITIES, TQM
PROJ MGT, CONTRACTS
BASIC MATH, ADV WRITING, COMP PROCESSING
ARCHTR, UTILITIES DESGN, CONSTRN METHODS
CODES, MATERIALS, TIME MGT
UTILITS, LD DEVELOPMENT, SCHEDULING
ACCTNG, ARCHETECHTURE
STRUCTURAL, UTILITIES
SCHD, EST, FONDATN/SOIL MECH, DRAFTNG,LW
COMM CONSTRN METHODS, UTILITIES, STRUCTR
PROJ MGT, CONSTRN CONTRCTS, EST, WRITING
CASH FLOW & MAN HOUR CHARTS FOR SCHEDLNG
SCHD, EST, ARCH DRAFT, BLUEPRINT READING
INTERNSHIP/PRACTICAL EXPERIENCE
BUS. LAW, PC USE
BUS LAW, COMP SCI, URBAN PLAN, ACCTG

Number of cases read = 150
Number of cases listed = 150

APPENDIX E - Continued

Suggested BCM Improvements

MORE HANDS ON COURSES
HIGHER PRIORITY ON COMM
MORE MGT. TRAINING
SEP RES. OR COMM. OPTN
SMALER CLAS, LESS TEXT
CO/OP TRADES:PLUM, CRPTY
COMP. ACESS-NEW CDS TECH
MORE COMML/INDUS EMPHASI
ACCOMODATE WORKING STU.
REQUIRE INTERNSHIPS
BE PRACTICAL, USEFUL
MORE MGT,DEVEL,FINANCE
DEVELOP MKTG COURSE/S
REQUIRE INTERNSHIP
LESS RES., MORE COMP USE
TEACH ETHICS, LOYALTY
MORE PHD'S, LESS POLITIC
SEPARATE RES FROM COMM
JOB SRCH, BUSINESS MINOR
MORE PRACT EXP COMMERCIL
STRICTER DEADLINES
PRCTCAL EXP, LESS THEORY
MAKE UTILS 3 SEPAR CLASS
ADD ENGINEERING MINOR
FLD TRNG, DROP AG ENG CO
MORE COMM, EST, COOP EXP
MORE FLD TRNG & FLD TRIP
ENVIRONMENTAL CONSERVTN
MORE GENERAL ED. CLASSES
FEWER EGOTISTICAL TCHRS
TWO SUMMERS OF INTERNSHP
QUEST SPKRS WRKG IN FLD
FEWER ARROGANT INSTRTORS
HAS IMPROVED FROM 70'S
COMMERCIAL MECH SYSTEMS
COMB CLASSES: END OVERLP
PUT PRGM IN ENGNRG SCHL.
BLD A STRCT: BG - END
UPDATE COMPUTER PRGMS
GEAR ALL CLASSES TO BCM
MORE PRACT EXP, COMP CRS
MAJORS: RES, COMM, INDTL
FOCUS ON COMP, METH, SYS
PUSH STUDENTS TO PREPARE
MORE FIELD WK FOR STDNTS
MAKE CLASSES HARDER
MORE COMM, LD DEV, RENOV
SEPARATE RES, COMM & IND
ADD SPECIALZTN IN ENGNRG
DROP "BLDG" FROM "BCM"
FOCUS: HOW THNGS RELATED
ON SITE INTERNSHIP
MORE QUALIFIED INSTRCTRS
RL WLD INSTRTS, MKT PRGM
REAL WORLD PROJECTS

APPENDIX E - Continued

Suggested BCM Improvements

MORE COMML/INDUS FOCUS
HANDS ON INTERNSHIP
MORE CONSTRTN EXPERIENC6
COMMERCL INTERNSHIPS
MANDATORY INTERNSHIP
ALUMNI SPEACHES
COMM RL ESTATE CLASSES
CURRENT CONSTRN TECHNQES
COOP PRGM, QUAL, PRODTVY
ALUMNI INPUT
SPEACH, HNDS ON TRNING
INTERNSHIPS, SPECIALZTN
MORE REAL WLD EXPERIENCE
BETTER JOPB PLACEMENT
HANDS ON MGT EXPERIENCE
ENVRNMTL IMPACT/RENOVTNS
JOB COSTING, INTERNSHIP
NEW CONSTRN METHODS
MORE COMM CONSTN & MGT
JOB INTERVIEWS/W ALUMNI
INTERNSHIPS
MANDATORY INTERNSHIP
HOME IMPVMT, MGT CLASSES
CONTINUE BCM GRAD BOOK
SEMINARS/W MID LEVEL VPS
HANDS ON EXPERIENCE
STRICTER ADMISSION REQMT
FIRE SAFETY, SBA COMPETN
INTRNSHIPS, PROPOSL WRTG
FOCUS ON SPECIFIC AREAS
TOUR TO JOB SITE
ON SITE INTERNSHIP, SALS
FOCUS IN CLASSES IN 18
FOCUS ON COMMERCIAL
MORE COMM/INDUS CONS TEC
COVER ALL TYPES CONSTRTN
FOCUS ON CAD
PRODUCE A HYBRID GRAD.
SEMINARS BY LG. BLDRS.

Number of cases read = 150
Number of cases listed = 150

APPENDIX F

SPSS VARIABLE LIST BY CASE

APPENDIX F

SPSS VARIABLE LIST BY CASE

The VARIABLES are listed in the following order:

Line 1: STARTED GRAD GENDER AGE RESIDENC ETHNICIT GRADSCH AREA_CON SALARY JOBLOCAT ACCOUNT ADVERTIS ALGEBRA ATL ARCHDRAF BCMINTRO BIOLOGY BULDCODE BUSLAW CALCULUS CHEMISTR COMSPEAK COMWRITE
Line 2: CAD COMPAPPL COMPPROG CONCONTR CONSTEST CONFINAN CONLAW CONMTLS CONMETHO CONPRODU CONSCEHD CROSSCUL ECOLOGY ECON ENGLITER FORLANGU FOUNDSOI HISTORY LANDACQU LANDDEVE LAW_SOCI MANCONSR MANGENBU MANPERSO MANTQM MANPHYSS MKTG PHYSICS PROJMGT PROJMGTA PSYCH REALFINA SPATIALD STATISTI SURVEY
Line 3: STRUCDES THERMODY UTILITIE WESTCIVI STATUS SELFEMPL CURRTITL DUTIES HIREDBCM
Line 4: CURRADVA
Line 5: CURRPROB
Line 6: COURSEAD
Line 7: COURSEDE
Line 8: STDYMORE SUGGIMPR PREF1
Line 9: PREF2 PREF3

APPENDIX F - Continued

STARTED: 84 90 2 27 MI . 1 1 12500 1 1 6 1 2 1 1 1 1 1 6 2 1 1
CAD: 1 6 3 3 1 1 1 1 1 1 1 2 1 1 3 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 1 2 6 2
STRUCDES: 1 1 1 2 1 2 RECRUTER RECRUIT EMPLOYEES 2
CURRADVA: WELL ROUNDED
CURRPROB: FINDING A JOB
COURSEAD:
COURSEDE:
STDYMORE: PROJ MGT, CONSTR FINANCE .
PREF2: . .

STARTED: 86 91 2 27 MI 2 1 1 22500 1 3 6 1 2 1 6 6 2 3 6 6 2 2
CAD: 6 2 3 3 1 3 2 1 2 3 2 6 6 . 3 6 3 4 3 3 6 3 6 6 6 6 6 3 6 6 3 3 6 3 2
STRUCDES: 2 6 1 4 1 2 FIELD ENGINEER LAYOUT, ASST SUPER. 2
CURRADVA: USEFUL COURSES
CURRPROB: FINDING A JOB
COURSEAD: TOPOGRAPHY, SURVEYING
COURSEDE:
STDYMORE: SURVEYING, CIVIL ENGINEERING .
PREF2: . .

STARTED: 82 86 2 30 MI 1 2 2 27500 1 1 6 5 5 1 2 5 1 1 6 6 2 2
CAD: 6 2 2 1 1 1 1 1 1 1 1 6 3 1 6 6 6 6 6 6 6 1 1 6 6 6 1 3 1 6 6 1 6 6 6
STRUCDES: 1 6 1 6 3 . .
CURRADVA: COMPUTER COURSES
CURRPROB: IRRELEVANT REQUIRED COURSES
COURSEAD: BUSINESS COURSES
COURSEDE: SCIENCE COURSES
STDYMORE: CONSTR FINANCE, MARKETING, SALES .
PREF2: . .

STARTED: 89 92 . 24 MI 1 1 2 22500 1 5 6 1 1 2 3 6 1 2 6 6 2 2
CAD: 1 1 5 1 1 2 1 1 1 1 1 2 2 5 5 3 1 1 . . . 3 5 2 2 3 5 2 1 1 4 3 6 6 6
STRUCDES: 1 6 1 6 1 2 PROJ MGR/ESTIMATOR MANAGEMENT/ESTIMATIO 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: .
PREF2: . .

STARTED: 88 92 2 44 MI 4 2 2 50000 1 1 2 1 1 1 2 5 1 2 6 . 1 1
CAD: 1 1 6 1 1 1 2 2 2 . . 6 1 2 . . 1 2 1 1 2 1 1 2 2 6 2 6 1 6 2 1 6 6 6
STRUCDES: 2 6 1 2 1 2 .
CURRADVA: PREP FOR REAL WORLD
CURRPROB: NEED MORE T.A. HELP - TOO MUCH MEMORIZIN
COURSEAD: EPA ISSUES
COURSEDE:
STDYMORE: REAL ESTATE, PROJECT MANAGEMENT .
PREF2: . .

APPENDIX F - Continued

STARTED: 89 92 2 22 TX 1 2 1 17500 2 2 6 2 3 1 6 6 1 3 6 6 2 2
CAD: 6 1 6 1 1 1 1 1 1 1 1 6 6 3 6 6 1 6 6 2 6 1 2 1 6 6 6 3 1 6 3 4 6 3 6
STRUCDES: 1 6 1 6 1 2 ESTIMATOR ESTIMATION 2
CURRADVA: TECH TRAINING
CURRPROB: MORE TIME ON TECH. ISSUES
COURSEAD: MORE UTILITIES, NEGOTIATION, SUBS NEGO
COURSEDE:
STDYMORE: COMPUTER COURSES, HVAC, SCHEDULING, ELEC .
PREF2: . .

STARTED: 87 92 2 24 MI 1 2 1 27500 1 2 3 1 1 1 2 3 2 2 6 3 1 1
CAD: 6 1 3 1 1 2 2 1 1 1 1 3 2 2 3 4 2 4 2 2 3 1 1 6 6 2 3 2 1 1 3 2 3 6 2
STRUCDES: 1 6 2 4 1 2 C.M. MANAGEMENT 2
CURRADVA: INTERACTION BETWEEN STUDENTS AND FACULTY
CURRPROB: LITTLE COMMERCIAL IN CURRICULUM
COURSEAD: CM
COURSEDE: SENIOR SEMINAR
STDYMORE: STRUCTURAL DESIGN, PLANNING, PROJ MGT. .
PREF2: . .

STARTED: 88 92 2 23 CA 1 2 2 27500 4 2 4 1 5 1 2 5 1 1 6 6 1 1
CAD: 6 1 1 1 1 1 1 1 1 1 1 2 6 2 5 6 2 5 1 1 3 1 2 2 6 1 6 4 1 6 3 2 6 6 6
STRUCDES: 2 6 1 5 1 2 FIELD ENGINEER MANAGEMENT/ESTIMATIO 2
CURRADVA: PREP FOR REAL WORLD
CURRPROB: SOME ELECTIVES SHOULD BE REQUIRED
COURSEAD: PUBLIC RELATIONS AND INTENSIVE SAFETY
COURSEDE: NONE
STDYMORE: ATM311, UTILITIES, CONTRACTS, CM .
PREF2: . .

STARTED: 87 91 2 25 MI 1 2 7 26000 1 2 3 2 4 3 2 6 4 3 5 3 1 6
CAD: 6 3 4 3 1 2 2 2 6 6 2 4 6 3 6 6 6 6 6 2 3 3 3 6 6 6 6 2 6 6 3 3 6 6 2
STRUCDES: 3 6 4 6 1 2 PROJ MGR/ESTIMATOR MANAGEMENT/ESTIMATIO 2
CURRADVA: FACULTY KNOWLEDGE W/FIELD EXPERIENCE
CURRPROB: MORE HANDS ON
COURSEAD: 123/EXCELL/ADV ESTIMATING
COURSEDE: NONE
STDYMORE: MATERIALS, STRUCTURAL DESIGN MORE HANDS ON COURSES 12
PREF2: 18 41

STARTED: 87 92 2 25 MI 1 2 1 15000 1 4 5 2 4 1 4 6 3 4 6 6 2 2
CAD: 6 3 5 3 1 4 4 1 2 5 4 5 6 4 6 6 6 6 4 4 6 4 3 2 3 6 6 4 4 4 5 3 5 6 6
STRUCDES: 4 6 2 6 1 2 MGR LUMBER YARD ORDERING/MTL ACQUISI 2
CURRADVA: BIG 10
CURRPROB: LARGE CLASSES / NO OJT REQUIREMENT
COURSEAD: NONE
COURSEDE: SPATIAL DESIGN
STDYMORE: COMMUNICATIONS (WRITING) HIGHER PRIORITY ON COMM 5
PREF2: 12 18

APPENDIX F - Continued

STARTED: 85 90 2 26 MI 1 2 1 17000 6 4 4 3 3 1 3 6 1 1 2 6 1 1
CAD: 6 2 3 2 1 3 2 2 2 3 2 6 6 4 4 6 6 4 3 3 3 2 2 2 2 6 4 3 2 2 2 2 4 3 2
STRUCDES: 2 6 1 3 1 2 CODE ENFORC OFFICER ENFORCE CODES 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: .
PREF2: . .

STARTED: 80 84 2 . IL 1 1 1 19000 1 2 2 2 3 1 3 6 1 4 4 6 2 1
CAD: 6 2 6 3 1 3 3 2 2 3 3 6 4 3 5 6 3 6 6 3 3 2 2 6 6 6 3 4 1 6 5 4 6 6 6
STRUCDES: 1 4 2 5 1 . MGR PACKAGE BLDGS MAN. RES. DES. DPT. 2
CURRADVA: WELL ROUNDED
CURRPROB: NOT ENOUGH MGT. CLASSES
COURSEAD: PERSONNEL MGT, MORE WRITTEN & ORAL COMM.
COURSEDE: PHYSICS
STDYMORE: GENERAL BUSINESS MGT. MORE MGT. TRAINING .
PREF2: . .

STARTED: 83 87 2 28 MI 1 2 1 24000 3 3 6 3 4 2 2 6 3 2 3 4 3 4
CAD: 2 2 3 2 1 2 2 . 2 3 1 4 6 3 4 6 2 4 2 2 3 1 3 6 6 3 2 2 1 6 6 3 6 2 6
STRUCDES: 1 6 2 6 1 2 V. PRES. VOLKERS BDS ACC. SCHEDULING, SUP 2
CURRADVA: WELL ROUNDED FOR GENERAL ASPECTS OF CONS
CURRPROB:
COURSEAD:
COURSEDE: LAW, REAL ESTATE FINANCE
STDYMORE: SEP RES. OR COMM. OPTN .
PREF2: . .

STARTED: 81 87 2 31 MI 1 2 1 24000 4 2 2 1 3 1 2 4 2 1 3 3 1 1
CAD: 6 2 1 1 1 2 1 2 2 2 2 6 3 3 3 6 2 2 6 1 6 1 2 2 6 6 2 2 2 1 2 3 2 3 1
STRUCDES: 1 2 1 3 1 2 PROJ MGR/ESTMR PURCR EST JOBS, PUR. MATRL 2
CURRADVA: LRN MGT SKILS & BASIC CONSTRUCTION PRAC.
CURRPROB: TOO MUCH RES.EMPHASIS, TOO LITTLE COMM.
COURSEAD: CONS CNTRC, FED SDRS, ADA, OSHA, PUB/HLT
COURSEDE:
STDYMORE: SMALLER CLAS, LESS TEXT .
PREF2: . .

STARTED: 82 86 2 37 MI 1 2 1 26000 4 5 5 1 3 3 4 6 3 2 6 6 1 2
CAD: 6 6 5 3 2 5 4 3 3 6 6 6 4 3 3 6 4 3 5 5 6 3 3 6 6 6 4 4 6 6 4 4 4 6 2
STRUCDES: 1 6 3 3 1 2 SALES REP. ESTMTR ESTIMATING 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: .
PREF2: . .

APPENDIX F - Continued

STARTED: 85 90 2 27 MI 1 2 1 25000 2 5 5 4 4 3 3 5 4 5 5 5 4 3
CAD: 6 6 4 4 2 5 5 2 3 3 5 6 6 3 5 6 6 4 4 4 5 4 3 4 4 4 5 4 5 5 5 4 4 6 6
STRUCDES: 3 5 3 4 3 2 .
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: .
PREF2: . .

STARTED: 81 84 2 35 MI 1 2 1 22000 1 6 2 2 3 2 1 2 1 3 1 1 1 1
CAD: 6 2 2 1 1 1 1 2 2 2 2 5 3 2 5 6 3 4 3 3 6 1 1 6 6 3 6 2 2 6 5 2 6 3 2
STRUCDES: 3 6 3 5 1 2 DISTRICT MGR MNG 4.5 MIL CONST CO 1
CURRADVA: CRONS REAL CONST. WORLD EMPHYSIS TCHING
CURRPROB: TOO MUCH RES, TOO LITTLE CONST. INDUSTRY
COURSEAD:
COURSEDE:
STDYMORE: .
PREF2: . .

STARTED: 83 86 2 46 MI 1 2 1 17000 3 6 1 3 2 3 4 2 4 2 3 6 6 6
CAD: 6 3 3 3 3 4 4 3 3 6 3 6 6 4 3 4 6 4 6 6 6 3 6 6 6 6 6 2 6 6 5 3 6 2 1
STRUCDES: 1 6 3 6 1 2 CONSTRUCTION MGR SCHE, SUPV RES DEVEL 2
CURRADVA: WELL ROUNDED VIEW OF CONSTRN INDUSTRY
CURRPROB: TOO MGT FOCUSED, TOO LITTLE TECHNICAL
COURSEAD:
COURSEDE:
STDYMORE: COMPUTERS CO/OP TRADES:PLUM, CRPTY .
PREF2: . .

STARTED: 84 . 2 34 MI 1 2 2 24000 3 4 4 5 3 4 4 3 2 2 4 4 3 3
CAD: 3 3 3 2 2 2 2 1 2 2 2 4 4 4 4 4 4 5 2 2 4 1 2 3 3 4 4 3 3 4 4 1 3 3 2
STRUCDES: 3 3 3 5 1 1 UPS DRIV, RL EST INV DELIVERY, PROP RENTL 2
CURRADVA:
CURRPROB: HANDS ON TRAING, TAKE HOME VIDEO TAPES
COURSEAD: HANDS ON TRADE:WIRING, PLMB, ETC.
COURSEDE: BCM INTRODUCTORY
STDYMORE: RL ESTATE LAW, PROPERTY MGT. LAW COMP. ACESS-NEW CDS TECH .
PREF2: . .

STARTED: 86 90 2 26 MI 1 2 2 20000 6 5 3 1 2 2 2 6 2 4 5 5 2 2
CAD: 6 1 4 2 1 5 4 1 3 4 1 6 6 5 6 6 6 5 5 5 6 1 4 4 6 6 5 4 3 6 6 5 6 6 6
STRUCDES: 6 6 6 6 1 1 SALES REP. COMML EST,PROJ M, SLS,PURC 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: DRAFTING, MARKETING MORE COMML/INDUS EMPHASI 3
PREF2: 15 18

APPENDIX F - Continued

STARTED: 87 87 2 29 MI 1 2 1 19000 6 4 4 4 5 1 3 6 2 6 6 5 3 4
CAD: 6 3 5 4 2 5 6 2 6 6 2 6 6 5 5 5 4 5 4 4 5 3 5 6 6 6 5 5 3 3 6 3 3 6 6
STRUCDES: 2 6 2 5 1 2 CONC DISPATCHER SCHED,INVEN,ORDER 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: MOST CLASSES 5
PREF2: 18 46

STARTED: 77 86 2 42 MI 1 2 1 38000 6 2 4 2 3 3 4 6 2 2 6 5 2 2
CAD: 6 6 3 3 2 2 2 3 3 1 1 6 5 3 6 6 5 6 4 4 4 2 2 6 6 6 6 5 6 6 3 4 6 6 6
STRUCDES: 4 6 6 6 1 2 MANAGER OF INSTALL MANAGE INSTALLATIONS 2
CURRADVA: WELL ROUNDED
CURRPROB: TOO MUCH RESIDENTIAL
COURSEAD:
COURSEDE:
STDYMORE: INDEP. STUDY ACCOMMODATE WORKING STU. .
PREF2: . .

STARTED: 86 90 2 26 MI 1 2 1 25000 2 1 6 5 3 1 3 5 1 3 6 6 2 6
CAD: 1 2 5 2 1 1 2 1 1 1 1 5 6 3 5 6 2 5 2 1 6 1 2 1 6 6 3 5 1 6 4 1 6 6 6
STRUCDES: 1 6 1 6 1 1 OWNER ALL 2
CURRADVA: SMALL CLASSES
CURRPROB: INSTRUCTORS NEED MORE EXPERIENCE
COURSEAD:
COURSEDE:
STDYMORE: SCHEDULING, CAD, ESTIMATING REQUIRE INTERNSHIPS 24
PREF2: . .

STARTED: 84 88 1 28 MI 1 2 2 22000 1 3 4 2 4 2 3 5 3 3 5 5 2 2
CAD: 2 3 3 1 1 2 3 2 1 2 1 5 5 3 5 6 4 4 3 3 4 2 3 3 6 6 3 4 1 6 4 3 6 6 6
STRUCDES: 3 6 2 6 3 . .
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: ESTIMATING, SCHEDULING, UTILITIES 18
PREF2: 24 42

STARTED: 72 81 1 40 MI 1 1 1 . 6 3 6 1 3 2 5 5 1 2 4 4 4 2
CAD: 6 6 5 6 2 6 6 4 6 6 4 6 6 3 4 4 6 4 6 6 6 6 5 6 6 6 6 3 6 6 5 2 6 6 6
STRUCDES: 1 2 2 4 1 1 RESIDENTIAL DESIGNER EST,CUST REL,SALES, 2
CURRADVA: WELL ROUNDED
CURRPROB: LACK OF CONSTR RELATED MGT COURSES
COURSEAD:
COURSEDE: MGT302
STDYMORE: BE PRACTICAL, USEFUL .
PREF2: . .

APPENDIX F - Continued

STARTED: 81 86 2 31 MI 1 2 1 19000 1 4 6 3 4 1 2 4 3 4 4 4 4 4
CAD: 6 4 4 3 1 3 3 2 2 6 2 4 4 4 4 6 6 4 6 6 6 2 6 3 6 6 6 4 6 6 5 3 6 6 6
STRUCDES: 3 4 3 4 1 2 ESTIMATOR TAKE OFF,ORDER MTLS 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: JUST ABOUT EVERY COURSE 5
PREF2: 18 21

STARTED: 82 87 2 30 MI 1 1 5 30000 1 2 4 2 2 2 2 4 2 2 6 6 1 1
CAD: 6 1 6 2 2 2 2 2 2 2 2 6 5 1 3 4 2 4 1 1 2 2 1 1 1 2 2 4 2 3 4 1 3 3 2
STRUCDES: 3 4 2 4 1 2 REAL ESTATE APPRAISE GENERAL APPRAISAL 2
CURRADVA: GOOD INSIGHT ON NEW MTLS, CONSTR METHODS
CURRPROB: TOO FEW FACULTY, SOME STUCK ON THEMSLVS
COURSEAD: COMPUTER APPLICATIONS
COURSEDE: COMPUTER PROGRAMMING
STDYMORE: WRITING, FINANCE MORE MGT,DEVEL,FINANCE .
PREF2: . .

STARTED: 81 84 2 34 CA 1 2 2 25000 1 2 6 1 4 3 3 4 2 1 4 5 2 2
CAD: 6 2 3 2 2 3 2 3 5 5 2 5 4 3 5 6 6 2 1 2 6 3 3 6 3 3 3 3 2 6 4 2 3 4 2
STRUCDES: 2 3 3 5 1 2 VICE PRES/CHIEF EST PRE CONSTR SERVICES 2
CURRADVA: GOOD MIXTURE OF BUS & CONSTR MGT
CURRPROB: TOO MUCH RES. EMPHASIS
COURSEAD: CONSTRUCTION CONTRACTS
COURSEDE:
STDYMORE: CONTRACTS,ESTIMATING,CONSTR LAW 9
PREF2: 20 35

STARTED: 77 82 2 33 CA 1 1 1 20000 3 1 6 2 3 1 2 6 2 1 6 6 2 2
CAD: 6 1 1 6 1 1 1 1 1 6 6 6 3 3 6 6 6 3 6 6 6 6 2 6 6 6 2 3 6 6 3 1 6 3 2
STRUCDES: 2 6 2 4 1 2 DIVISION MGR MANAGE ALL OPER. 1
CURRADVA: VERY WELL ROUNDED
CURRPROB: NUMBER OF COURSES REQD
COURSEAD: LAND DEVELOPMENT, R E MKTG
COURSEDE:
STDYMORE: R E MKTG, COMPUTERS DEVELOP MKTG COURSE/S 15
PREF2: 18 45

STARTED: 79 82 2 34 MI 1 2 1 18000 1 3 3 1 3 4 2 6 1 1 6 6 6 2
CAD: 6 6 6 1 1 1 1 1 1 . 1 6 6 1 6 6 6 6 6 6 1 1 6 1 6 6 6 2 6 6 6 2 6 6 6
STRUCDES: 6 6 1 6 1 1 PRESIDENT EVERYTHING & NOTHING 2
CURRADVA:
CURRPROB: REQUIRE MORE MATH
COURSEAD:
COURSEDE:
STDYMORE: REQUIRE INTERNSHIP 27
PREF2: 37 51

APPENDIX F - Continued

STARTED: 90 92 1 25 KA 1 1 3 26000 6 3 3 1 6 2 4 4 3 3 4 6 2 6
CAD: 6 2 2 6 1 4 2 2 6 6 1 5 6 4 3 6 6 5 6 6 6 1 3 6 6 6 2 6 3 1 6 5 4 6 3
STRUCDES: 1 1 6 3 6 1 ESTIMATOR BID JOBS, AFFIRM ACT 2
CURRADVA: ELEC. FLEXIBILITY,MGT COURSES, GRP PROJS
CURRPROB: NOT ENOUGH TECHNICAL COURSES REQUIRED
COURSEAD: CONST. LAW, COMP. APPLICATIONS IN CONST.
COURSEDE: REAL ESTATE FIN. COMBINED/W CONST. FIN.
STDYMORE: CONST. MATERIALS, MECHANICS LESS RES., MORE COMP USE 18
PREF2: 35 51

STARTED: 82 85 2 31 MI 1 1 2 25000 1 2 3 1 2 2 5 4 3 2 3 3 2 1
CAD: 6 2 3 2 2 3 2 2 2 2 2 4 3 3 4 4 2 4 3 3 3 2 2 2 2 6 3 1 2 2 3 4 6 6 3
STRUCDES: 2 3 3 3 1 2 PROJ. MGR, COST ENG. SCHE, CNTRCTS,PROCUR 2
CURRADVA: DIVERSE COURSE SELECTION
CURRPROB: TOO MUCH RES, NEED NATIONAL ACCRED.
COURSEAD: VALUE ENGINEERING/COST OPTIMIZATION
COURSEDE: BCM INTRO, REAL ESTATE FINANCE
STDYMORE: CONSTRUCTION PRODUCTIVITY & SCHEDULING TEACH ETHICS, LOYALTY 12
PREF2: 13 41

STARTED: 87 92 2 25 MI 1 1 2 80000 1 2 4 1 4 1 5 6 1 1 6 5 4 4
CAD: 2 2 6 1 1 4 6 4 3 3 3 5 3 3 6 6 6 5 4 4 4 3 3 4 4 4 4 3 2 2 4 4 2 3 3
STRUCDES: 1 6 1 5 1 1 PRES. OF 2 COMPANIES ALL PHASES OF OPRATN 2
CURRADVA: NOT TOO MUCH MATH, GOOD TEACHERS
CURRPROB: BAD FACULTY ATTITUDES RUINS ATMOSPHERE
COURSEAD: RESIDENTIAL BUILDERS LICENSING CLASSES
COURSEDE: BCM INTRO
STDYMORE: FINANCE, CONTRACTS MORE PHD'S, LESS POLITIC 9
PREF2: 17 49

STARTED: 84 88 2 28 MI 1 2 2 20000 3 3 6 2 4 3 4 6 3 2 5 3 3 3
CAD: 6 3 6 6 1 2 6 2 2 4 2 6 5 4 5 6 2 5 6 3 5 2 3 6 6 6 6 2 2 2 3 3 3 6 3
STRUCDES: 2 4 2 4 1 2 EST/MGR EST, COORDN,PROJ MGR 2
CURRADVA: MGT SKILLS, ESTIMATING
CURRPROB: NEED MORE OF ALL ASPECTS OF COMMERCIAL
COURSEAD: CONSTRUCTION CONTRACTS
COURSEDE:
STDYMORE: CONTRACT SPECIFICATIONS FOR COMMERCIAL SEPARATE RES FROM COMM 18
PREF2: 42 43

STARTED: 79 83 1 32 IL 1 2 2 16000 1 2 4 3 2 1 6 6 6 3 6 4 2 1
CAD: 6 1 2 2 1 3 3 3 2 6 1 6 3 3 2 6 2 6 3 3 4 2 2 4 2 . 3 6 2 . 5 4 . 6 3
STRUCDES: 2 4 1 6 1 2 PROJECT MGR. RUN PROJ START-FINSH 2
CURRADVA:
CURRPROB: TOO BROAD, TOO LITTLE COMMERCIAL FOCUS
COURSEAD:
COURSEDE:
STDYMORE: UTILITIES, EST, SCH, FNDATN & SOIL MECH .
PREF2: . .

APPENDIX F - Continued

STARTED: 78 86 2 34 MI 1 2 4 22000 1 3 . 2 5 2 . 5 2 3 3 4 1 2
CAD: 6 1 1 . 2 2 6 2 2 . 3 5 6 3 6 6 6 6 6 3 6 . 3 6 6 6 3 3 3 6 3 2 6 5 3
STRUCDES: 1 6 3 . 1 2 VP/CEO, BLDG CENTER OVERSEE OPERATIONS 2
CURRADVA: WELL ROUNDED, CRON, MROZOWSKI
CURRPROB:
COURSEAD:
COURSEDE: STATISTICS
STDYMORE: 15
PREF2: 16 49

STARTED: 89 91 2 26 MI 1 1 5 12000 1 4 4 3 3 3 5 6 4 3 6 3 2 2
CAD: 6 3 6 5 5 3 4 4 4 6 5 6 3 3 3 6 4 3 6 4 6 5 2 6 6 5 2 2 5 6 6 3 5 3 6
STRUCDES: 2 6 3 5 1 1 SELF EMPLOYED EVERYTHING 2
CURRADVA: BUSINESS CLASSES & ELECTIVES
CURRPROB: NO JOB PLACEMENT
COURSEAD: BUSINESS CLASSES
COURSEDE: SENIOR SEMINARS
STDYMORE: WOULD HAVE CHANGED MY MAJOR JOB SRCH, BUSINESS MINOR 12
PREF2: 13 41

STARTED: 87 91 2 24 MI 1 2 2 24000 1 3 6 2 4 1 1 6 1 2 3 3 2 1
CAD: 6 1 1 6 1 1 1 1 1 1 1 6 4 2 6 6 2 6 3 2 6 6 3 6 6 3 6 2 1 6 3 1 6 6 1
STRUCDES: 1 6 1 5 1 2 ASST. ADMINISTRATOR ASST. ON SITE/OFFICE 2
CURRADVA: PRACTICAL & DRAFTING EXP, EST, TEACHERS
CURRPROB: NEED MORE CONTRACT/SUBCONTRACT CLASSES
COURSEAD:
COURSEDE: HUMANITIES
STDYMORE: CONTRACTS, LAW MORE PRACT EXP COMMERCIL 5
PREF2: 18 42

STARTED: . 85 2 33 MI 1 2 2 18000 3 3 6 6 2 3 5 6 3 6 6 3 3 6
CAD: 6 5 6 3 3 3 2 2 6 6 6 6 3 4 6 6 6 6 6 6 3 3 6 6 6 6 6 2 6 6 5 3 6 6 3
STRUCDES: 2 6 3 6 1 2 PROJ. MGR. ESTIMATOR EST, SALES, INV, SUP 1
CURRADVA:
CURRPROB: MORE COMM, COMP, PBM, ELEC, MECHANICAL
COURSEAD: ELECTRICAL, MECHANICAL, PLUMBING
COURSEDE:
STDYMORE: BISUNESS LAW, ACCOUNTING, ECONOMICS 22
PREF2: 41 49

STARTED: 90 92 . 24 MI 1 2 1 20800 1 1 6 1 3 2 3 3 2 3 2 2 1 3
CAD: 6 1 3 1 1 1 2 3 3 2 5 2 1 2 4 1 4 6 6 6 2 2 6 6 6 6 3 3 . . . 1 6 6 6
STRUCDES: 2 6 1 3 1 2 CONSTRUCTION SUPVSR SCHE, SITE MGT, INV. 2
CURRADVA: GOOD PROGRAM
CURRPROB: BCM COURSES TOO EASY
COURSEAD: MANDATORY INTERNSHIP
COURSEDE: BCM INTRODUCTORY CLASS
STDYMORE: SCHEDULING COURSES, TIME MGT. STRICTER DEADLINES .
PREF2: . .

APPENDIX F - Continued

STARTED: 83 86 2 30 MI 1 2 2 24000 1 4 4 2 4 2 3 4 2 3 2 2 1 1
CAD: 6 6 6 3 3 3 3 2 3 3 2 4 4 3 6 6 3 4 4 4 4 2 3 6 6 3 3 3 2 6 3 2 3 6 .
STRUCDES: . . 1 2 1 1 CORP DIR. OF SAFETY COMPANY WIDE SAFETY 2
CURRADVA: GOOD OVERALL UNDERSTANDING OF FIELD
CURRPROB: DISCOURAGES SELF EMPLOYMENT
COURSEAD: ENTREPENEUR/FINANCIAL FREEDOM CLASSES
COURSEDE:
STDYMORE: EXPLANATION OF THE CONSTRUCTION INDUS. PRCTCAL EXP, LESS THEORY .
PREF2: . .

STARTED: 88 92 2 24 OH 1 1 1 18000 1 1 . 5 1 1 4 1 1 3 3 1 1 1
CAD: 1 1 1 1 1 1 1 1 1 1 3 3 2 5 5 1 4 1 1 1 1 1 1 1 1 2 3 . 2 2 4 1 2 5 2
STRUCDES: 1 3 2 3 1 2 ASSISTANT MGR SCHD, INVENT, LABOR 2
CURRADVA: WELL ROUNDED PROGRAM
CURRPROB: STEADY UPDATE OF NEW TECHNIQUES/MATERIAL
COURSEAD: MORE CAD CLASSES, PROBLEM SUPVSN CLASS
COURSEDE:
STDYMORE: BLDG CODES, BUS LAW, ARCH DRAFTING, COMP MAKE UTILS 3 SEPAR CLASS .
PREF2: . .

STARTED: 80 84 1 33 MI 1 1 1 30000 1 2 3 3 2 2 3 6 1 1 6 6 1 1
CAD: 1 1 2 1 2 2 1 3 2 3 2 3 6 3 3 3 2 4 2 2 3 2 2 3 3 3 2 4 2 2 3 2 3 6 2
STRUCDES: 2 3 2 4 1 2 PROJECT MGR. TOTAL PROJ. CONTROL 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE:
PREF2: . .

STARTED: 78 80 2 37 NM 1 1 5 21000 4 3 6 3 3 1 3 6 1 1 6 6 2 2
CAD: 6 2 2 1 1 2 1 1 1 6 1 6 6 4 6 6 6 6 3 2 6 1 2 2 6 6 3 6 2 6 4 2 6 6 6
STRUCDES: 2 3 2 4 1 2 FACILITY MGT SPECLST MAN. ALL NAT GURD BD 2
CURRADVA: WELL ROUNDED
CURRPROB: NEED MORE ENGINEERING FOR JOB MARKET
COURSEAD: CIVIL, MECH, ELEC & ENVIRONMENTAL CLASS
COURSEDE: NOT SURE
STDYMORE: ACCOUNTING, ALGEBRA, TRIGONOMETRY ADD ENGINEERING .
PREF2: . .

STARTED: 87 90 2 26 OH 1 2 1 26000 1 3 6 2 2 1 2 6 4 3 2 6 3 3
CAD: 6 6 6 6 2 2 6 1 6 6 3 6 6 3 6 6 6 6 6 6 6 3 2 6 6 6 6 2 6 6 4 2 6 6 4
STRUCDES: 1 6 6 6 1 2 TREASURER SALES, EST, MGT. 2
CURRADVA: WELL ROUNDED COMPARED TO ENGINEERING
CURRPROB: PRGM UNSUITABLE FOR AGRICULTURAL ENG DPT
COURSEAD: BLUEPRINT RDG & INTERPRETATION
COURSEDE: URBAN PLANNING
STDYMORE: BCM 312 & 313, REAL ESTATE FINANCE DROP AG ENGR. .
PREF2: . .

APPENDIX F - Continued

STARTED: 90 92 2 23 MI 1 2 2 32000 1 3 2 2 2 2 2 4 2 1 2 5 1 1
CAD: 1 1 . 1 1 1 1 1 1 1 1 3 3 3 2 5 3 . 3 3 2 2 2 2 2 . . 4 1 1 2 2 2 2 2
STRUCDES: 2 5 3 5 1 2 PROJECT ESTIMATOR NEG CONTS, DO PROPSL 2
CURRADVA: WELL ROUNDED, CREATES A KNOWLEDGE BASE
CURRPROB: TOO MUCH RES, NOT ENOUGH COMMERCIAL
COURSEAD: EST, SCHD, MTRLS, CONTS, COMP, BLUPRINT
COURSEDE:
STDYMORE: WOULD DO THE SAME AS BEFORE 18
PREF2: 20 22

STARTED: 76 80 2 39 MI 1 2 1 16000 2 3 6 3 3 2 3 6 3 2 6 6 3 2
CAD: 6 4 6 3 4 3 2 2 3 3 3 6 6 3 6 6 3 6 6 3 3 3 3 6 6 6 6 3 6 6 2 3 6 5 3
STRUCDES: 2 6 3 6 1 1 PRESIDENT EST, CARPENTER, MGR 2
CURRADVA: WELL BALANCED BETWEEN LIB ARTS & TECH
CURRPROB: MORE FOCUS ON COMMERCIAL CONSTRUCTION
COURSEAD: ON SITE MGT, BLUEPRINT READING
COURSEDE:
STDYMORE: BLUPRNT RDG, EST, PROJ MGT, COOP 20
PREF2: 44 49

STARTED: 87 91 2 26 MI 1 2 4 21000 2 3 6 2 4 2 3 5 2 3 6 6 3 4
CAD: 6 3 4 4 4 4 4 2 2 3 3 6 6 4 5 6 6 5 4 4 6 6 6 6 6 6 6 3 6 6 6 4 4 6 4
STRUCDES: 4 6 3 6 1 2 PARTS PERSON CUSTOMER SERVICE 2
CURRADVA:
CURRPROB: NOT ENOUGH HANDS ON TRAINING
COURSEAD:
COURSEDE:
STDYMORE: CODES, CAD MORE FLD TRNG & FLD TRIP 3
PREF2: 5 12

STARTED: 87 90 1 . MI 1 1 . . . 3 6 6 2 1 4 6 2 3 3 3 1 1
CAD: 6 2 4 3 3 2 2 2 2 4 4 6 6 2 2 3 4 2 3 1 6 3 5 6 6 6 6 2 3 6 6 3 6 6 6
STRUCDES: 1 6 2 1 2 . .
CURRADVA: WELL ROUNDED GENERAL CONSTRUCTION PRGM
CURRPROB: NON-BCM RELATED BUS COURSES WASTE TIME
COURSEAD: LAND DEV, ALL FORMS OF COMMUNICATION
COURSEDE: FINANCE, MGT, NON-BCM COURSES
STDYMORE: MORE DESIGN COURSES, CONSTRN IS AN ART ENVIRONMENTAL CONSERVTN 13
PREF2: 33 49

STARTED: 87 91 2 25 MI 1 1 1 26000 4 3 6 3 3 2 3 6 2 3 6 6 3 2
CAD: 6 2 4 3 2 2 3 2 3 3 3 4 6 2 4 3 4 4 3 2 4 3 3 3 4 3 3 3 3 6 3 2 3 6 4
STRUCDES: 3 4 3 4 1 2 RL ESTATE APPRAISOR APP. RES REAL ESTATE 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: .
PREF2: . .

APPENDIX F - Continued

STARTED: 85 89 2 26 IL 1 1 6 7000 1 4 4 3 3 4 5 6 4 4 3 2 1 2
CAD: 6 6 3 5 3 3 4 4 3 5 5 2 1 3 2 6 4 2 5 5 2 5 4 5 5 5 5 2 4 4 2 3 3 3 4
STRUCDES: 3 3 4 3 2 . .
CURRADVA: HELPED DEFINE CAREER GOALS WH/ISN'T BCM
CURRPROB: NOT A WELL ROUNDED EDUCATIONAL PRGM
COURSEAD:
COURSEDE:
STDYMORE: BIOLOGY, ORAL COMMUNICATION, PHYSICS MORE GENERAL ED. CLASSES 25
PREF2: 26 44

STARTED: 89 92 2 24 MI 1 2 1 . 2 3 6 5 3 1 2 4 3 3 6 6 1 1
CAD: 2 2 2 3 2 3 6 1 1 2 1 6 3 4 6 6 6 6 3 3 4 1 2 2 2 6 4 5 3 6 3 4 6 6 6
STRUCDES: 4 6 2 6 1 2 REAL ESTATE SALES NEW SUBDIVISION SLES 1
CURRADVA: HELPS ANS CONSTRUCTION RELATED QUESTIONS
CURRPROB: LACKS CONSTRN SITE EXPOSURE FOR STUDENTS
COURSEAD: INTERNSHIP WAS MOST EDUCATIONAL
COURSEDE: PHYSICS
STDYMORE: COMPUTERS FEWER EGOTISTICAL TCHRS 5
PREF2: 18 21

STARTED: 88 90 2 25 MI 1 2 4 38000 6 2 3 2 2 1 2 4 2 2 2 4 1 1
CAD: 1 1 2 1 1 1 2 2 2 2 1 4 4 2 3 . 2 3 2 2 3 2 3 2 2 3 2 5 2 2 5 1 3 4 2
STRUCDES: 2 3 2 5 1 2 DIR. OF CONSTRUCTION PROJ MGT MIDWEST US 1
CURRADVA: GOOD WELL ROUNDED CURRICULUM
CURRPROB: STIGMA ASSOCIATED WITH AGRICLTRL MAJOR
COURSEAD: HANDS ON CARPENTRY TRNG, LABOR RELATIONS
COURSEDE:
STDYMORE: CONSTRUCTION SCHEDULING, COMMUM. SPKNG TWO SUMMERS OF INTERNSHP 18
PREF2: 19 45

STARTED: 81 85 2 30 MI 1 2 1 30000 1 2 6 4 4 2 . 6 3 3 6 6 3 6
CAD: 6 6 5 3 3 4 3 4 4 4 3 6 6 2 6 6 3 6 6 5 6 5 5 5 6 6 6 4 6 6 5 3 3 3 6
STRUCDES: 3 6 3 6 1 1 OWN/PRTNR RL ES COS ALL OWNRSHP DUTIES 1
CURRADVA: WELL ROUNDED
CURRPROB: TOO MUCH OVERVIEW, NOT ENOUGH DETAIL
COURSEAD: MORE ADVANCED CLASSES IN ALL AREAS
COURSEDE:
STDYMORE: FINANCE QUEST SPKRS WRKG IN FLD 1
PREF2: 5 27

STARTED: 81 86 2 31 MI 1 2 2 24000 4 4 6 4 3 2 6 6 3 3 5 3 4 3
CAD: 6 5 5 3 2 4 3 4 2 6 6 6 6 3 6 6 6 6 6 6 6 6 6 6 6 6 6 6 5 6 6 4 4 6 6 6
STRUCDES: 2 6 4 6 1 1 MORTGAGE PROCESSING 2
CURRADVA: GOOD FOR RESIDENTIAL CONSTRUCTION
CURRPROB: NOT ENOUGH FOCUS ON COMMERCIAL CONSTRN
COURSEAD:
COURSEDE:
STDYMORE: .
PREF2: . .

APPENDIX F - Continued

STARTED: 78 81 2 37 MI 1 2 3 14000 1 3 3 2 3 1 2 4 2 2 6 4 4 3
CAD: 6 2 6 3 2 1 2 2 2 2 2 4 3 3 4 3 3 3 2 2 3 1 2 3 6 3 3 3 2 6 3 1 6 3 2
STRUCDES: 2 3 6 4 1 1 OWNR BLDG PROD/CONST RUN OWN BUS & SALES 2
CURRADVA: WELL ROUNDED FOR CONSTN RELATED OCCUPTNS
CURRPROB: LACKS HANDS ON EXP, TOO MUCH CLASS INSTN
COURSEAD: PERSONAL COMPUTER TRNG, SALESMANSHIP
COURSEDE: HISTORY, LITERATURE
STDYMORE: PERSONAL COMPUTER TRNG, SALESMANSHIP FEWER ARROGANT INSTRTORS .
PREF2: . .

STARTED: 76 80 1 35 CO 1 1 1 27500 1 3 3 2 3 1 3 2 6 2 4 3 1 6
CAD: 6 6 3 6 2 6 6 2 2 6 2 6 6 3 6 6 6 6 6 6 6 2 2 6 6 6 6 6 6 6 3 2 6 6 6
STRUCDES: 2 6 2 2 1 2 PJT MGR/COORDINATOR DSGN, CONSTN ADMNSTN 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: HAS IMPROVED FROM 70'S .
PREF2: . .

STARTED: 84 90 2 27 MI 1 1 6 20000 1 3 6 2 2 2 3 6 2 1 3 2 1 1
CAD: 6 1 2 3 2 6 6 2 2 6 3 5 6 4 4 6 3 5 3 3 3 3 3 3 6 6 3 1 3 6 4 1 6 6 6
STRUCDES: 1 6 1 5 1 2 TEST TECHN - FORD CO DEV TESTNG NEW ENGS 2
CURRADVA: GIVES UNDERSTANDING OF CONST. FIELD
CURRPROB: GIVES JOB EXPECTATIONS BEYOND REALITY
COURSEAD: CAD, MORE VARIEY OF MGT CLASSES
COURSEDE:
STDYMORE: CAD, MGT, BUSINESS ASPECTS OF BCM 15
PREF2: 45 49

STARTED: 87 92 2 25 OH 1 1 2 29000 1 4 4 4 4 3 3 5 3 4 4 4 1 3
CAD: 6 4 3 3 3 3 3 2 3 6 2 5 6 5 6 5 6 6 6 4 6 3 5 4 6 6 5 5 6 6 5 6 3 6 6
STRUCDES: 3 5 3 6 1 2 JOB SFTY, SUP, COMM. 2
CURRADVA:
CURRPROB: NEEDS MORE COMMERCIAL/W INTERNSHIPS
COURSEAD: SAFETRY: ASBESTOS, SCAFFOLDING, GFI
COURSEDE:
STDYMORE: COMMUNICATION WITH SUBCONTRACTORS COMMERCIAL MECH SYSTEMS 12
PREF2: 13 .

STARTED: 88 92 2 24 MI 1 2 1 25000 1 4 3 4 5 2 3 4 2 2 6 5 4 4
CAD: 6 6 6 6 2 2 6 3 6 6 3 6 6 3 6 4 6 5 6 6 6 6 6 6 6 6 4 5 6 6 3 2 6 6 6
STRUCDES: 6 6 2 6 1 1 REAL ESTATE SALES SELLING 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: ESTIMATING, BUSINESS LAW 5
PREF2: 9 18

APPENDIX F - Continued

STARTED: 85 89 2 27 MI 1 2 6 18000 6 3 6 3 6 2 1 3 2 1 2 3 2 2
CAD: 6 6 2 1 2 2 1 2 2 2 6 6 4 6 6 3 5 3 3 3 3 3 3 2 4 4 3 3 2 2 5 1 1 6 3
STRUCDES: 2 6 1 6 1 1 OWNER: 3 RESTAURANTS HIRE, TRN, FINC, ACC 2
CURRADVA: HELPS IN RUNNING RES RENTAL PROPERTY BUS
CURRPROB: NONE
COURSEAD: EMPLOYEE MGT
COURSEDE:
STDYMORE: REAL ESTATE FINANCE, BUSINESS LAW 5
PREF2: 9 19

STARTED: 86 91 2 25 MI 1 2 1 24000 6 2 3 2 4 1 4 4 3 1 3 4 2 6
CAD: 6 3 4 3 1 2 6 3 6 6 2 6 2 . 4 6 6 4 4 6 . 2 2 6 6 6 6 3 6 6 4 2 6 6 3
STRUCDES: 2 6 3 6 1 1 FLD SUPERINTENDENT BUILD HOUSES, BG-END 2
CURRADVA: COMBINED GEN BUS CLASSES WITH CONST MGT
CURRPROB: COUSE OVERLAPS OF SAME MATERIAL REPEATDL
COURSEAD: MORE BUSINESS WRITING & SALES
COURSEDE: USELESS INTERNSHIPS - NOT LEGITIMATE
STDYMORE: STRUCTURES, KEEP BETTER NOTES COMB CLASSES: END OVERLP 9
PREF2: 18 45

STARTED: 83 88 2 28 MI 1 2 2 26000 1 3 6 2 4 2 5 6 2 2 4 4 3 2
CAD: 6 3 4 3 2 2 2 2 3 . 2 4 6 3 4 6 3 . 6 6 3 4 . 3 6 6 6 3 3 6 5 2 3 2 2
STRUCDES: 2 4 2 6 1 2 ASST BUS/TRADE SUPV. PREPARE CONST SPECS 2
CURRADVA: GOOD BLEND OF BUSINESS AND TECHNICAL
CURRPROB: MANY PEOPLE UNFAMILIAR/W THE PRGM
COURSEAD: MORE COMMERCIAL CONSTRUCTION CLASSES
COURSEDE:
STDYMORE: PUT PRGM IN ENGNRG SCHL. .
PREF2: . .

STARTED: 86 90 1 25 MI 1 2 1 16000 2 4 3 3 4 1 1 4 1 3 3 5 1 1
CAD: 1 2 3 2 1 1 1 1 1 1 1 3 1 5 4 3 2 4 2 1 4 1 2 2 3 4 3 1 2 2 3 2 1 3 1
STRUCDES: 1 4 1 6 1 2 MAT SELCTN, SERV SUP CHK SITES, CUST ASST 2
CURRADVA:
CURRPROB: LACKS ENOUGH DSGN & ART/DRAWING CLASSES
COURSEAD: ART, 3D ARCHITECTURAL DESIGN
COURSEDE: ECONOMICS, CHEMISTRY
STDYMORE: EST, LND DEV, SCH, ARC DGN, SPACIAL DGN BUILD A STRUC. 5
PREF2: 24 51

STARTED: 79 82 2 36 MI 1 2 6 20000 1 4 5 3 . 5 5 3 3 2 5 3 2 2
CAD: 5 3 5 6 5 3 6 3 3 6 6 6 6 3 6 3 6 3 6 6 6 3 3 6 6 6 4 4 3 6 3 4 6 6 6
STRUCDES: 3 6 6 4 1 2 ENVRNMTL ANALYST COMPLNCE/W WASTE ACT 2
CURRADVA: NONE
CURRPROB: NOT QUALIFIED TO ANS: OUT OF SCH TOO LNG
COURSEAD:
COURSEDE:
STDYMORE: .
PREF2: . .

APPENDIX F - Continued

STARTED: 86 90 2 26 WI 1 2 4 25000 1 3 6 3 2 2 2 6 2 2 6 6 2 2
CAD: 6 3 6 6 1 2 2 1 2 2 1 4 3 3 6 6 6 4 6 3 6 6 6 6 6 6 3 6 6 3 3 6 5 6
STRUCDES: 2 6 2 6 1 2 CIVIL/MECHNL PLANNER EST, SCH, COOR SUBCN 2
CURRADVA: 2
CURRPROB: NEED MORE FOCUS ON COMM/INDUSTRIAL CONST
COURSEAD:
COURSEDE: STATISTICS
STDYMORE: UPDATE COMPUTER PRGMS 18
PREF2: 21 24

STARTED: 76 80 2 36 IL 1 2 2 16200 4 1 6 3 4 1 4 6 2 2 4 5 1 2
CAD: 3 1 6 1 1 1 1 1 1 1 1 6 6 5 3 6 1 5 6 1 5 1 3 6 1 6 6 3 1 6 5 1 6 3 1
STRUCDES: 3 6 1 6 1 2 OPERATIONS MGR RUN PROJ OPERATONS 1
CURRADVA: WELL ROUNDED
CURRPROB: ACC, RL ES, COMP, SHOULD BE RUN THRU BCM
COURSEAD: CONSTN COST CONTRL, RISK MGT, PRDVTY STU
COURSEDE: GENERAL: RL ESTATE, ACCT, HUMANITIES
STDYMORE: RISK MGT, SCHD, SITE LOGISTICS, SPEACH GEAR ALL CLASSES TO BCM 18
PREF2: 21 24

STARTED: 86 90 2 26 IN 1 2 1 20000 1 4 5 1 3 1 2 6 1 3 6 5 3 3
CAD: 6 3 5 2 1 4 3 1 2 2 1 4 6 4 3 5 6 6 5 4 3 2 3 3 2 4 6 4 1 6 6 3 6 6 1
STRUCDES: 1 6 1 5 1 2 CARPENTER FORMAN BLDG LAYOUT, JOB MGT 2
CURRADVA: WELL ROUNDED
CURRPROB: NO AREAS FOR CONCENTRNG STUDY
COURSEAD: COMP EST, SCHEDULING
COURSEDE: RL ESTATE & LAND DEVELOPMENT
STDYMORE: COMP EST, PROJ MGT, PROJ SCHEDLNG MORE PRAC. EXPER. 8
PREF2: 18 21

STARTED: 85 89 2 26 MI 1 2 2 26000 6 3 6 3 4 2 3 6 2 2 6 6 2 2
CAD: 6 1 3 2 1 6 2 2 2 6 2 6 6 3 4 6 2 3 3 3 6 2 3 6 3 3 3 6 2 6 6 3 6 6 6
STRUCDES: 2 6 2 6 1 2 PROJ MGT, COMM CONST OVERSEE ENTIRE PROJ 2
CURRADVA: CLASSES HAVE REAL LIFE APPLICAITION
CURRPROB: NOT ENOUGHT COMM FOCUS, TOO MUCH RESDL
COURSEAD: ADD PROJ MGT, EST, CONS LAW, CONTRS, CAD
COURSEDE:
STDYMORE: ESTNG, CONSTRUCTION LAW & CONTRACTS MAJORS: RES, COMM, INDTL 9
PREF2: 18 24

STARTED: 84 91 2 . MI 1 2 6 28000 1 3 4 4 3 2 4 4 3 3 4 5 2 3
CAD: 6 . 6 3 3 3 3 3 6 6 2 5 5 4 5 6 4 5 4 3 5 3 4 6 6 6 6 5 3 6 4 3 6 6 6
STRUCDES: 4 6 3 5 1 1 OWNR: POURED WALLS SCHD, SUP, SLS, CUST 2
CURRADVA: DOWN TO EARTH APPROACH
CURRPROB: CORE CLASSES TOO EASY, MORE QUAL INSTRS
COURSEAD: COMP, SALES, MERGE CE COURSES/W BCM
COURSEDE: OVERLAP COURSES: RL EST FIN, CONST FIN
STDYMORE: CONSTRUCTION MGT FOCUS ON COMP, METH, SYS 16
PREF2: 18 24

APPENDIX F - Continued

STARTED: 80 85 2 32 MI 1 1 2 20000 6 3 6 3 3 2 1 4 2 2 6 5 6 1
CAD: 6 3 4 2 2 1 2 1 1 6 2 6 6 2 6 6 6 3 2 2 6 2 2 2 6 6 6 4 6 6 3 1 6 6 4
STRUCDES: 3 6 3 6 1 1 ATTORNEY FULL TIME RL EST INV 2
CURRADVA: GIVES VARIETY OF CARR OPTIONS, RL EST FN
CURRPROB: STDNS/W WIDE RANGE OF INTEREST & BKGRNDS
COURSEAD: MGT, ALL FORMS OF COMM SKILLS
COURSEDE: BIOLOGY, CHEMISTRY, PHYSICS
STDYMORE: RSL EST FINANCE, ALL COMM COURSES PUSH STUDENTS TO PREPARE 13
PREF2: 37 45

STARTED: 81 85 2 31 MI 1 2 1 25000 4 3 3 3 2 1 4 6 2 2 4 4 2 2
CAD: 6 6 5 3 1 2 2 3 6 6 1 6 5 2 6 6 6 6 6 6 6 2 6 6 6 6 2 4 6 6 4 3 6 6 3
STRUCDES: 5 6 1 6 1 1 GEN CONTACTOR, BLDER RUN COMPANY 2
CURRADVA: DRAFTING HELPED IN READING BLUEPRINTS
CURRPROB: MORE ON SITE VISITS
COURSEAD: MORE SCHEDULING & ESTIMATING CLASSES
COURSEDE: BCM INTRO, STRUCTURAL DESIGN
STDYMORE: DRAFTOMG I, CONSTRUCTION FINANCE MORE FIELD WK .
PREF2: . .

STARTED: 84 89 1 30 SC 1 1 1 32000 6 2 4 3 2 3 2 6 2 6 6 6 1 1
CAD: 6 1 6 2 2 2 2 5 2 2 2 6 3 2 3 6 3 3 3 3 3 2 2 2 3 3 3 5 2 2 3 3 3 4 3
STRUCDES: 1 6 2 3 1 2 PRODUCT CONTROL MGR ENRNG, PROCUMT, COOD 2
CURRADVA: INDIVIDUAL ATTENTION, FAMILY ATMOSPHERE
CURRPROB: TOO EASY, NEED MORE TECH CLASSES
COURSEAD: ADD STATS, STRCTS, EST, BLUEPRINTS
COURSEDE: CONSTRUCTION MATERIALS, T
STDYMORE: ACC, EST, CONSTN SURV, COMPUTER APPLTN MAKE CLASSES HARDER 12
PREF2: 13 15

STARTED: 89 91 2 25 CA 1 2 1 28000 4 3 3 3 3 2 2 6 2 2 6 6 1 1
CAD: 6 3 3 2 2 2 2 2 2 2 2 6 6 3 3 6 3 6 3 3 6 2 3 6 6 4 3 3 2 6 5 3 6 3 3
STRUCDES: 2 6 2 3 1 2 SALES REPRESENTATIVE ACC, SALES, QUOTING 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: 12
PREF2: 13 21

STARTED: 77 83 2 35 MI 1 2 4 18000 1 2 6 2 5 1 1 5 1 1 2 3 1 1
CAD: 6 2 2 1 1 1 1 1 1 1 1 1 5 5 2 5 5 1 5 2 2 3 1 1 2 2 3 2 5 1 6 3 2 6 6 2
STRUCDES: 2 6 2 5 1 1 PROJECT MGR EST, CNTRCT NEG, MRG 2
CURRADVA: DIVERSE AREAS OF STUDY
CURRPROB: BUS WORLD THINKS PRGM IS ONLY RESIDENTL
COURSEAD:
COURSEDE:
STDYMORE: MORE COMM, LD DEV, RENOV 18
PREF2: 22 35

APPENDIX F - Continued

STARTED: 75 80 2 37 MI 1 2 1 14000 1 2 6 2 5 2 4 6 6 1 6 4 1 1
CAD: 6 3 5 2 1 1 2 2 2 6 2 4 5 4 5 5 3 6 6 2 6 2 2 6 6 6 6 6 2 6 6 2 6 6 6
STRUCDES: 2 6 2 6 1 1 VICE PRESIDENT PJT MGT, SALES, NEGO 1
CURRADVA: BEST WELL ROUNDED PRGM AVAILABLE
CURRPROB: MORE WRITNG, SPKNG, PRJT MGR CLASSES
COURSEAD: CNTRC NEG DELNG/W A'S:IA,401,201,101,107
COURSEDE: CALC, ECOLOGY, HISTORY, THERMODYAMICS
STDYMORE: CNSTRC FIN, MKTNG, LD ACQ & DEV, CONTRCS SEPARATE RES, COMM AND INDUS 9
PREF2: 12 18

STARTED: . 92 2 25 MI . 2 3 23000 1 4 5 2 2 2 1 5 2 3 6 6 2 2
CAD: 6 2 4 2 2 3 2 2 2 2 2 3 4 4 4 5 5 4 4 4 4 3 3 3 3 5 5 3 3 3 3 4 4 4 4
STRUCDES: 2 6 1 4 1 2 ELECTRICIAN RES & COMM WIRING 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE:
PREF2: . .

STARTED: 85 91 2 28 NC 1 2 2 26000 1 3 6 1 3 1 1 6 1 3 2 3 3 2
CAD: 1 1 5 2 1 2 2 1 1 1 1 4 6 2 3 6 3 3 1 1 3 2 2 2 2 2 3 2 2 2 3 2 2 2 2 1
STRUCDES: 1 3 3 3 1 2 PROJT ESTIMATOR EST COMMERCIAL PRJTS 2
CURRADVA: HANDS ON EXPERIENCE FROM TEACHNG STNDPT.
CURRPROB: NOT ENOUGH CLASSES, NEEW CIVIL ENGNG MIN
COURSEAD: CAD, SURVEYING
COURSEDE: BIOLOGY, ACCOUNTING
STDYMORE: STATS, DYNAMICS ADD SPECIALZTN IN ENGNRG 3
PREF2: 18 49

STARTED: 74 80 2 40 MI 1 2 5 12000 1 2 6 3 3 3 3 4 . 1 6 6 4 4
CAD: 6 3 3 3 3 3 4 3 3 3 3 6 4 4 6 3 3 3 3 3 4 3 2 3 6 6 6 3 3 3 5 3 6 6 3
STRUCDES: 3 3 3 3 1 2 EXC VICE PRES MGT & CONSTN COUNSLG 2
CURRADVA: OVERVIEW OF SING & MULTI FAMLY RES CNSTN
CURRPROB: NEEDS INDSTRL, INSTITNL, COMM CONSTRCTN
COURSEAD: INDSTL/INSTITNL CNSTRN TECHNQS & SYSTEMS
COURSEDE: CROSS CULTURAL STUDIES, ECOLOGY
STDYMORE: BUS CNSTRN LAW & FIN, LD AQTN & DEV, CML DROP "BLDG" FROM "BCM" 9
PREF2: 20 .

STARTED: 86 90 2 25 MI 1 1 3 30000 1 2 6 6 5 1 1 6 2 2 6 6 4 4
CAD: 3 3 3 1 1 1 1 1 1 1 1 1 4 4 2 4 4 6 4 6 6 3 1 1 1 6 4 4 4 2 2 3 2 6 6 6
STRUCDES: 1 6 1 6 1 1 OWNER OF CONSTRN CO ALL ASPECTS OF BUS 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: CONSTRUCTION ESTIMATING 19
PREF2: 35 49

APPENDIX F - Continued

STARTED: 85 89 2 26 OH 1 2 1 23000 1 1 6 1 2 2 2 5 3 2 6 5 2 6
CAD: 6 3 3 4 2 2 6 2 1 1 1 3 6 3 6 6 6 5 6 6 6 6 6 6 6 6 6 3 2 6 4 2 3 6 6
STRUCDES: 1 6 1 4 1 2 PROJECT MGR CNTRS, PRO SCH, BUDG 1
CURRADVA: GOOD PREPARATION FOR THE BUSINESS WORLD
CURRPROB: LACKS SUFICNT SURV, CIVL ENG, LD DEVPMT
COURSEAD: URBAN DEV OPTION FOR STUDENTS
COURSEDE:
STDYMORE: IN DEPTH SCH CRSES, EST, BIDNG, CNTR ACC 12
PREF2: 23 51

STARTED: 88 91 2 25 KA 1 1 1 25000 1 4 3 4 4 1 3 5 1 3 4 4 2 3
CAD: 6 6 6 2 2 2 2 2 2 2 3 3 3 3 6 6 2 6 6 6 3 3 3 2 1 3 3 3 3 6 5 2 6 6 6
STRUCDES: 2 6 6 6 1 2 SUPERINTENDANT ALL PHASES OF CNSTRN 2
CURRADVA: WELL ROUNDED, DLS/W CONSTRN PERSONNEL
CURRPROB: DOESN'T REQUIRE INTERNSHIP PARTICIPATION
COURSEAD: MANDATORY INTERNSHIPS
COURSEDE: PSYCHOLOGY
STDYMORE: PRSNL MGT: SUBCNTRCTORS, EMPLYES, PRDVTY FOCUS: HOW THNGS RELATED .
PREF2: . .

STARTED: 83 86 2 29 MI 1 1 . . . 3 3 3 3 2 3 3 3 2 3 3 4 4
CAD: 6 2 . 3 4 2 2 5 4 6 5 3 4 2 3 3 4 3 2 2 2 2 2 6 4 3 3 4 4 4 3 2 4 4 4
STRUCDES: 4 4 5 3 1 1 ATTORNEY LAW 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: ON SITE INTERNSHIP 20
PREF2: 33 45

STARTED: 86 89 2 27 OH 1 2 1 28000 2 2 6 4 5 1 3 6 1 1 3 6 2 2
CAD: 6 6 4 1 1 2 1 2 3 3 2 6 6 2 5 5 1 5 6 6 2 1 2 6 6 6 6 3 6 6 5 2 6 6 6
STRUCDES: 3 6 6 6 1 2 VP: PURCHG/PRODCTION ALL ASPECTS/PRODTION 2
CURRADVA: PERSONALIZED, APPROACHABLE INSTRUCTORS
CURRPROB: PGRM TOO LOCALIZED, IGNORES NTL TRENDS
COURSEAD: NEG SKLS, DOS/LOTUS, CUST REL, MKTNG
COURSEDE: COMPUTR PRGMNG, PSYCOLOGY, ATL
STDYMORE: ECONOMICS, ACCOUNTING, COMMUNICATIONS MORE QUALIFIED INSTRCTRS 9
PREF2: 17 18

STARTED: 77 81 . 34 MI 1 2 1 17000 2 1 2 3 3 2 4 6 2 1 6 5 1 1
CAD: 6 6 6 6 1 1 1 2 2 2 2 3 3 2 4 4 3 3 6 6 2 2 1 3 6 6 2 3 6 6 2 1 6 3 2
STRUCDES: 2 6 2 3 1 1 VP RUN BUSINESS, SALES 1
CURRADVA: GOOD OVERVIEW OF CONSTRUCTION INDUSTRY
CURRPROB: NEEDS TRADES MGT COURSES
COURSEAD: MKT ANALYSIS,
COURSEDE:
STDYMORE: ACCOUNTING RL WLD INSTRTS, MKT PRGM 9
PREF2: 36 45

APPENDIX F - Continued

STARTED: 77 82 2 34 MI . 2 1 15000 1 3 3 2 3 1 3 4 2 2 3 3 2 2
CAD: 3 . 4 2 1 1 2 1 1 2 1 3 3 3 3 6 6 3 2 2 3 2 3 6 6 6 6 2 2 6 3 2 6 6 2
STRUCDES: 2 3 2 6 1 2 DESIGN CONSUL, SALES SALES REP 1
CURRADVA: GOOD KNOWLEDGE BASE OFFERED BY COURSES
CURRPROB: NOT ENOUGH LAND DEVELOPMENT COURSES
COURSEAD: URBAN DEVELOP, MULTI-FAMILY
COURSEDE:
STDYMORE: MANAGEMENT, ACCOUNTING REAL WORLD PROJECTS .
PREF2: . .

STARTED: 85 90 2 26 MI 1 1 2 18000 1 4 6 1 4 2 4 5 3 3 2 4 5 5
CAD: 6 4 5 3 1 2 3 2 4 3 3 6 6 5 5 5 2 6 3 3 6 3 3 3 6 6 6 6 1 2 6 5 3 6 5 6
STRUCDES: 1 3 2 6 1 2 ENGINEER DESIGN,EST,CONTR NEG 2
CURRADVA: WELL ROUNDED COURSE OFFERING
CURRPROB: MORE TECH RATHER THAN MNGT EMPHASIS
COURSEAD: MORE TECHNICAL COURSES
COURSEDE:
STDYMORE: ESTIMATING, STRUC DESIGN, DRAFTING MORE COMML/INDUS
FOCUS 10
PREF2: 18 49

STARTED: 80 86 2 32 MI 4 2 . 18000 5 3 2 3 3 3 3 6 4 2 5 5 3 3
CAD: 6 3 5 5 4 3 3 4 3 4 4 6 6 1 4 3 6 6 6 6 2 2 1 2 3 6 1 4 6 6 2 2 6 6 4
STRUCDES: 4 6 6 6 1 2 PERSONNEL DIRECTOR HUMAN RESOURSES 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: 27
PREF2: 36 40

STARTED: 89 91 2 24 CO 1 1 2 21000 2 3 6 3 3 1 3 6 2 3 3 3 3 2
CAD: 2 3 6 3 2 3 3 1 1 1 1 6 4 4 4 4 2 2 6 6 3 3 3 4 6 4 6 4 3 6 4 4 6 6 6
STRUCDES: 2 6 3 6 1 2 SUPERINTENDENT SCHED, QUAL CNTROL 2
CURRADVA:
CURRPROB: LACK OF RIGOR
COURSEAD: INTERNSHIPS, COMMUNICATIONS
COURSEDE:
STDYMORE: SCHEDULING, PROB. SOLV., COMMUNICATIONS 21
PREF2: 22 24

STARTED: 65 80 2 47 MI 2 1 4 35000 1 4 5 1 3 1 3 5 1 3 3 3 1 1
CAD: 6 1 3 1 1 3 3 1 1 2 1 4 4 5 5 4 1 5 3 2 5 1 . 1 3 2 3 2 1 1 3 3 2 3 3
STRUCDES: 2 4 1 5 1 2 ENGR GROUP MANAGER DESIGN, CONSTR 2
CURRADVA: TEACHING DONE BY BLDG CONSTRUC. PROFFES.
CURRPROB: COURSE OFFERING CONFLICTS WHEN 1 PER YR.
COURSEAD:
COURSEDE:
STDYMORE: AR DRAFT,STRUC DES, CODES, PROJ MNGT .
PREF2: . .

APPENDIX F - Continued

STARTED: 84 90 2 28 IL 1 2 1 26000 4 1 6 3 3 1 3 6 2 3 4 4 2 1
CAD: 6 1 3 3 1 2 6 2 6 6 1 6 6 3 5 6 2 5 2 1 3 1 2 2 1 3 3 3 1 6 4 3 6 6 2
STRUCDES: 2 6 2 6 1 2 CONSTRTN SUPERINTDNT QUAL & COST CONT, SC 1
CURRADVA: WIDE PERSPECTIVE OF INDUSTRY
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: .
PREF2: . .

STARTED: . 83 2 . FL . 2 3 . 3 5 5 2 3 1 6 6 2 2 6 6 4 2
CAD: 6 6 5 6 2 3 4 2 3 6 2 . 6 3 2 6 6 5 6 3 5 3 3 6 6 6 6 1 6 6 3 2 2 6 2
STRUCDES: 1 6 2 5 . . .
CURRADVA: LEARNED ALOT
CURRPROB: LACK OF SERIOUS CORE CLASSES
COURSEAD:
COURSEDE:
STDYMORE: STRUCTS: 3 OR MORE TERMS, ESTMTNG HANDS ON INTERNSHIP .
PREF2: . .

STARTED: 90 92 2 24 MI 1 2 1 16000 2 3 5 3 6 2 3 5 2 3 4 6 5 3
CAD: 6 4 4 2 2 2 1 1 1 3 2 6 6 3 6 6 6 6 6 6 6 3 3 3 3 6 6 4 2 6 1 2 6 6 6
STRUCDES: 3 6 2 6 3 . .
CURRADVA: LAW, FINANCE, CONTRACTING, ESTIMATING
CURRPROB: HANDS ON INTERNSHIP LACKING
COURSEAD: CONSTRUCTION PROBLEM SOLVING
COURSEDE:
STDYMORE: BUILDING CODES, DRAFTING MORE CONSTRTN EXPERIENC .
PREF2: . .

STARTED: 86 91 2 25 MI 1 2 1 18000 1 3 6 2 4 6 6 6 1 3 5 5 2 6
CAD: 6 3 3 6 1 2 6 3 2 6 1 6 6 2 6 6 6 6 6 3 6 1 1 6 6 6 6 4 6 6 4 3 6 6 6
STRUCDES: 1 6 1 6 1 2 CONSTRUCTION MGR BID, EST, SCH, SUPRV 2
CURRADVA: PREPARES FOR LEARNING ON THE JOB
CURRPROB: LACKS EMPHYSIS ON ACTUAL CONSTRN SITUATN
COURSEAD: CONSTRN SUPVSN, SCHEDNG, BLUEPRNT RDNG
COURSEDE:
STDYMORE: .
PREF2: . .

STARTED: 85 89 2 27 MI 1 2 3 25000 1 2 4 3 4 1 5 5 2 3 5 3 3 3
CAD: 4 3 5 3 2 2 2 2 2 2 1 5 5 3 5 5 3 5 3 3 5 3 3 3 3 3 3 3 3 3 3 5 2 5 3 3
STRUCDES: 2 4 2 5 1 1 OWNER/SCHEDULING SCHED, QUALITY CONTR 2
CURRADVA: BROAD INFORMATION BASE, WITH CONSTRN BUS
CURRPROB: POOR INSTRCTORS, STDNTS DO WK FOR FACLTY
COURSEAD: HANDS ON CLASSES, VISIT CONSTRN SITES
COURSEDE:
STDYMORE: .
PREF2: . .

APPENDIX F - Continued

STARTED: 86 91 2 25 OH 1 1 . . 2 2 6 1 1 1 3 6 2 2 3 3 1 1
CAD: 3 2 4 1 3 5 6 1 1 3 2 6 6 4 6 6 6 5 6 5 6 3 6 1 2 2 6 3 3 . 3 4 6 4 1
STRUCDES: 1 6 1 5 1 2 PROJ ENGINEER COORD SUBCNTRTS, 2
CURRADVA: WELL ROUNDED
CURRPROB: WEAK ON COMMERCL FOCUS: BLDG METS & MATR
COURSEAD: MANDATORY INTERNSHIP ESPECIALLY COMMERCL
COURSEDE: WESTERN CIVILIZATION
STDYMORE: COMMERCL INTERNSHIPS .
PREF2: . .

STARTED: 85 89 2 26 NJ 1 2 1 25000 2 3 6 3 5 2 3 6 2 3 6 5 2 2
CAD: 6 4 5 2 2 3 3 2 2 3 2 6 5 5 6 6 3 5 6 6 6 3 6 6 6 4 6 6 2 6 2 3 2 6 3
STRUCDES: 3 6 3 3 1 2 PROJECT MGR ALL ASPECTS OF BUSI 2
CURRADVA: BROAD PERSPECTIVE
CURRPROB: REPETITIVE INFORMATION
COURSEAD:
COURSEDE:
STDYMORE: PSYCHOLOGY, COMPUTER APPLICATIONS MANDATORY INTERNSHIP .
PREF2: . .

STARTED: 86 90 2 26 MI 1 2 5 11000 1 5 6 3 4 2 6 5 1 2 6 6 5 6
CAD: 6 5 5 6 5 5 3 2 2 6 5 6 6 4 6 6 6 5 5 5 6 4 3 6 6 6 6 5 4 6 5 5 5 5 6
STRUCDES: 3 6 3 6 1 1 SLES/SERV CONSTN EQP SALES, ORDERING 2
CURRADVA: LEARNED THE MOST FROM INTERNSHIP
CURRPROB: ESTNG TOO VAGUE, NO JOB SEARCH PREPARATN
COURSEAD: ACC FOR SML CONS BUS, EST FOR REMODELING
COURSEDE:
STDYMORE: ALUMNI SPEACHES .
PREF2: . .

STARTED: 78 82 2 34 TX 1 1 2 24000 1 2 3 3 3 2 4 6 2 2 6 6 4 4
CAD: 6 6 2 3 2 2 6 2 2 6 6 6 6 3 6 6 6 6 6 2 6 2 2 6 6 6 3 3 6 6 4 6 6 6 6
STRUCDES: 3 3 6 6 1 1 CUSTOM HOME BUILDER 2
CURRADVA: WELL ROUNDED, GOOD INTERNSHIPS
CURRPROB:
COURSEAD: MORE REAL ESTATE COURSES
COURSEDE:
STDYMORE: COMM RL ESTATE CLASSES .
PREF2: . .

STARTED: 86 88 2 27 WI . 1 2 26000 1 3 3 2 3 1 1 3 2 2 3 3 1 1
CAD: 6 1 3 3 3 3 3 1 1 3 1 6 6 3 3 6 3 6 6 6 6 3 2 6 3 3 3 3 2 6 3 3 6 3 6
STRUCDES: 3 6 2 6 1 2 MRI SHIELDING ENGR DESGN/DEV MRI SHILDS 2
CURRADVA: COMBINES CONSTRUCTION WITH BUSINESS
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: CAD, COMMERCIAL CONSTRTN TECHNIQUES CURRENT CONSTRN TECHNQES .
PREF2: . .

APPENDIX F - Continued

STARTED: 81 82 2 37 CT 1 1 1 24000 1 2 6 4 6 3 6 6 2 1 4 6 2 2
CAD: 6 6 6 6 2 2 2 2 2 6 2 6 6 3 6 6 6 5 6 6 6 3 3 3 6 6 2 1 6 3 3 3 6 6 3
STRUCDES: 2 6 6 6 1 1 CONSTRTN MGR MKTNG, CNTRT NEG, 2
CURRADVA: ENGINEERING & BUSINESS SCHOOL CLASSES
CURRPROB: LACK OF INSTRS/W PRACTL EXP, WEAK RESDNL
COURSEAD: BONDING, INSURCE, ADA/FIRE SAFETY CODE
COURSEDE:
STDYMORE: CONTRACTUAL LAW, DETAILS OF EACH TRADE COOP PRGM, QUAL, PRODTVY .
PREF2: . .

STARTED: 79 . 2 . TX . 1 1 18000 1 1 2 3 4 2 2 5 2 1 6 6 3 3
CAD: 2 2 2 1 1 1 1 1 1 1 1 4 3 2 3 2 2 4 2 2 2 1 1 1 1 6 3 6 6 6 3 3 6 6 6
STRUCDES: 3 6 6 6 1 1 OWNER HOME BUILDER 2
CURRADVA: .
CURRPROB: .
COURSEAD: .
COURSEDE: .
STDYMORE: .
PREF2: . .

STARTED: 77 82 2 35 VI 1 2 1 12000 1 2 6 2 2 2 2 3 2 2 4 4 2 2
CAD: 2 2 2 2 2 2 2 2 2 2 2 2 6 6 3 3 6 2 . 2 2 3 2 2 2 2 2 3 3 2 2 3 2 3 2 2 2
STRUCDES: 2 3 2 3 1 2 CONSTRUCTION MGR ALL ASPECTS OF CONST 2
CURRADVA: GOOD BASE
CURRPROB: LACKS PROJ MGT & SCHEDNG
COURSEAD: CONTRTS ADMIN, SCHEDNG, PURCHASING
COURSEDE:
STDYMORE: SUBDIVISION LAYOUT AND DESIGN, URB PLNG .
PREF2: . .

STARTED: 85 91 2 27 MI 1 2 2 18000 2 4 4 1 4 1 3 5 4 3 3 3 2 2
CAD: 2 2 4 2 2 2 2 2 2 2 2 2 6 6 3 6 6 6 6 2 2 3 2 3 3 5 5 4 3 2 2 4 3 3 5 3
STRUCDES: 2 6 2 6 1 2 CARPNTR/PROJ MGR SITE SUPERINTENDENT 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: .
PREF2: . .

STARTED: 86 91 2 26 MI 1 1 4 26000 3 2 6 4 3 1 3 5 3 3 5 5 1 1
CAD: 6 1 1 2 3 2 2 1 6 6 1 6 5 4 4 4 6 5 3 4 5 1 2 2 6 6 2 5 1 6 3 2 6 3 6
STRUCDES: 3 6 6 6 1 2 CONSULTANT PROJ MGR, SCHEDULING 2
CURRADVA: PREPARATION FOR JOB
CURRPROB: SOMETIMES TOO TIME CONSUMING
COURSEAD: ADV SCHEDNG, CONTRNG: ENVRNMTL & GOV'T
COURSEDE:
STDYMORE: SCHEDULING ALUMNI INPUT .
PREF2: . .

APPENDIX F - Continued

STARTED: 85 92 2 25 MI 1 1 1 38000 1 2 3 3 5 1 1 5 2 3 3 5 1 1
CAD: 2 1 5 2 4 2 2 1 2 2 2 3 4 1 4 4 4 4 2 2 3 1 1 1 1 3 2 5 2 2 3 2 6 4 6
STRUCDES: 5 5 1 6 1 2 SALES CONSULTANT NEW HM SALES, DOCMTS 2
CURRADVA: KNOWLGE OF CONSTRTN METHODS & MATERIALS
CURRPROB: LACKS GEN COMP SOFTWARE: LOTUS, WD PRFT
COURSEAD:
COURSEDE:
STDYMORE: CONTRACTS, FINANCE SPEACH, HNDS ON TRNING .
PREF2: . .

STARTED: 86 90 1 26 MI 1 1 5 26000 1 5 6 3 3 3 3 6 3 3 5 4 1 2
CAD: 6 6 4 3 3 3 2 3 3 6 3 6 6 6 3 4 6 6 6 6 6 6 2 2 2 6 6 3 3 3 6 4 3 6 6 3
STRUCDES: 3 6 3 3 1 2 PROJ CONTROLS ENGNR SCHED: LRGE IND PROJ 2
CURRADVA: BROAD UNDERSTANDING OF CONSTRTN MGT
CURRPROB: JACK OF ALL TRADES, MASTER OF NONE
COURSEAD: SCHED, EST, INDUSTRIAL, COMMERCIAL
COURSEDE: COMPUTER PRGMNG, PRIMARILY RESIDENTIAL
STDYMORE: UTILITIES, LD ACQ & DEV, STRUTRAL DESIGN INTERNSHIPS,
SPECIALZTN .
PREF2: . .

STARTED: 80 84 2 32 MI 1 2 2 24000 1 3 3 1 3 1 6 4 1 2 5 4 2 1
CAD: 6 2 3 1 1 1 2 1 1 1 1 5 4 2 4 5 1 5 2 2 3 1 1 1 6 6 2 2 1 6 4 1 6 4 3
STRUCDES: 1 2 6 5 1 2 VICE PRESIDENT EST, PROJ MGT 2
CURRADVA: WELL ROUNDED EDUCATION
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: MORE REAL WLD EXPERIENCE .
PREF2: . .

STARTED: 89 92 2 25 IN 1 2 1 21000 1 2 3 3 3 1 . 3 2 2 6 6 3 3
CAD: 6 3 3 3 1 2 2 2 2 2 2 4 6 3 3 6 3 3 6 3 3 3 3 3 3 3 3 3 3 3 3 6 4 3
STRUCDES: 2 6 1 3 1 2 SUPERINTENDENT LIAZON BET CUST/BLDR 2
CURRADVA: GOOD PROGRAM
CURRPROB: NOT ENOUGH HANDS ON PARTICIPATION
COURSEAD: MGT, TQM, DRAFTING, STRUCTURES, FRAMING
COURSEDE:
STDYMORE: STRUCTURES, EST, DRAFTING BETTER JOPB PLACEMENT 5
PREF2: 18 51

STARTED: 79 84 2 33 MD 1 2 1 19000 4 3 6 4 3 1 2 6 1 1 6 6 2 2
CAD: 6 2 6 1 1 1 1 1 1 6 1 6 6 2 5 6 6 6 6 1 3 1 1 6 6 6 6 3 2 6 3 1 6 6 2
STRUCDES: 2 6 1 6 1 2 PROJ MGR CONTRS, BIDS, SCH/ES 2
CURRADVA: GOOD OVERVIEW OF RESIDENTIAL CONSTRUCTN
CURRPROB: LACKED COMPUTER USAGE CLASSES IN THE 80S
COURSEAD: COMPUTER CLASSES FOR ESTNG & SCHEDULING
COURSEDE:
STDYMORE: STRUCT DESIGN, GENERAL MGT HANDS ON MGT
EXPERIENCE 8
PREF2: 18 21

APPENDIX F - Continued

STARTED: 86 91 2 26 VA 1 2 2 27000 5 3 4 2 4 3 3 4 1 2 4 4 3 2
CAD: 6 3 2 1 1 1 1 1 1 2 1 4 2 2 3 6 2 3 2 2 3 2 2 2 4 4 4 4 2 2 4 3 4 4 3
STRUCDES: 3 6 3 4 1 2 ESTIMATOR EST, BUDGET, SCHE, 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: COMPTR EST/DRAFT, WRITING, SCH, ACC, ANA ENVRNMTL IMPACT/RENOVTNS 8
PREF2: 18 20

STARTED: 83 88 2 29 VA 1 2 1 24000 4 2 6 2 4 1 3 4 1 1 2 3 2 1
CAD: 6 2 1 1 1 1 6 1 1 6 6 4 4 3 4 4 2 4 4 3 2 2 2 2 2 6 6 3 6 6 3 3 6 6 6
STRUCDES: 1 6 1 6 1 2 OPERATNS COST MGR MANAGE COST & ACC 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: .
PREF2: . .

STARTED: 79 83 2 33 MI 1 2 8 14000 2 2 6 2 3 2 3 6 2 2 6 3 2 2
CAD: 6 3 4 2 2 3 3 2 3 3 3 6 6 3 3 6 6 3 6 2 3 2 3 3 6 6 3 3 2 6 3 3 6 6 6
STRUCDES: 3 6 2 6 1 1 OWNR RESD BLDG CO. OVERALL MGT 2
CURRADVA: JOB COST, EST, BLDG TECHNIQUES, MATERLS
CURRPROB: JOB EXP, INTERNSHIP
COURSEAD: BLDRS LICNSE EXAM, NEW BUS START/UP COST
COURSEDE:
STDYMORE: JOB COST & BIDNG, CIVL ENG, SUBDVSN DESN JOB COSTING, INTERNSHIP 18
PREF2: 21 51

STARTED: . 92 2 24 MD 1 1 1 28000 1 1 5 2 5 1 1 5 2 1 5 5 1 3
CAD: 1 1 3 1 1 1 1 1 1 1 1 5 5 3 5 5 1 5 3 3 5 1 1 1 3 2 4 1 1 6 5 1 5 4 1
STRUCDES: 1 3 2 5 1 2 CONTROLS MGR EST, NEG, CONTRS,SCH 1
CURRADVA: WELL ROUNDED PROGRAM
CURRPROB: TOO EASY
COURSEAD: NEGOTIATIONS
COURSEDE:
STDYMORE: ESTMTNG, COMM FINANCE NEW CONSTRN METHODS 12
PREF2: 18 19

STARTED: 81 84 2 33 MI 1 1 2 12000 1 2 3 3 4 1 3 4 2 3 4 4 2 2
CAD: 6 6 3 3 2 3 3 2 3 6 6 . 4 2 6 6 6 4 6 2 6 2 6 6 6 4 4 4 6 6 5 3 6 6 2
STRUCDES: 2 6 2 6 1 2 SR. PROJ MGR EST, CONTS/NEG, MGT 2
CURRADVA: BROAD OVERVIEW OF CONSTRUCTION INDUSTRY
CURRPROB: LACK ENOUGH COMM & CONSTRN MGT TECHNQUES
COURSEAD: TQM, COMMCL, CONSTRN MGT
COURSEDE:
STDYMORE: CONSTRUCTION MGT MORE COMM CONSTN & MGT 5
PREF2: 18 21

APPENDIX F - Continued

STARTED: 85 89 2 . MI 1 2 1 26000 4 3 6 3 4 3 4 6 2 2 3 6 3 6
CAD: 6 3 6 2 2 2 3 4 3 3 2 6 6 4 6 6 6 5 4 4 6 2 3 6 6 6 6 4 4 6 6 3 3 4 6
STRUCDES: 2 6 2 6 1 2 SUPERINTENDENT ALL SUPNTDNT DUTIES 2
CURRADVA: STRONG RESIDENTIAL FOCUS
CURRPROB: LACKS SCHLNG, EST, SPECIALTY CLASSES
COURSEAD: STRUCTURE & SCHEDULING
COURSEDE:
STDYMORE: SCHEDLNG, ESTIMATING 22
PREF2: 49 51

STARTED: 86 90 2 26 MI 1 2 1 31000 5 1 3 3 5 3 3 3 2 2 3 3 1 6
CAD: 6 6 2 2 2 2 2 2 2 2 4 6 4 5 6 6 4 3 3 3 . 3 3 6 6 3 6 4 2 6 6 3 6 6 6
STRUCDES: 4 6 6 6 1 1 PRES. BLDG COMPANY EVERYTHING 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: 1
PREF2: 12 21

STARTED: 85 89 2 27 NC 1 2 1 32000 1 4 5 2 3 1 2 6 4 3 4 6 2 3
CAD: 6 3 6 3 1 1 2 1 1 1 1 6 6 3 6 6 4 3 6 6 3 2 2 6 6 3 4 2 1 1 1 2 3 6 2
STRUCDES: 1 5 1 6 1 2 PRODUCTION MGR COST/QUAL/PERS CONTL 2
CURRADVA: VERY FOCUSED, GOOD OVERALL BASIC CONSTRN
CURRPROB: WEAK COMMUNICATION REGARDING PEOPLE
COURSEAD: INTERPERSONAL COMM, BUSINESS NEGOTIATION
COURSEDE:
STDYMORE: JOB INTERVIEWS/W ALUMNI 18
PREF2: 22 43

STARTED: 85 89 2 27 OH 1 2 2 26000 4 3 4 3 5 1 3 5 2 3 3 5 2 2
CAD: 6 2 5 2 1 3 3 4 3 3 2 5 5 3 5 6 3 5 2 2 4 2 3 3 3 6 4 4 6 6 5 3 6 3 6
STRUCDES: 2 6 2 5 1 2 CONSTRUCTION MGR RESTAURANT CONSTRN 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: INTERNSHIPS .
PREF2: . .

STARTED: 87 92 2 24 MI 1 2 1 17000 2 3 3 3 6 2 5 6 3 4 5 4 3 2
CAD: 6 2 5 2 2 2 2 2 3 3 2 4 5 5 5 5 2 5 5 5 5 2 3 3 3 3 4 3 2 2 4 4 4 5 2
STRUCDES: 2 4 2 5 1 2 CONSTRN SUPERINTDNT SIZE MGT, SCHD, EST 1
CURRADVA: MOST COURSES GAVE TRUE LIFE SCENARIOS
CURRPROB: TOO RESIDENTIAL ORIENTED
COURSEAD:
COURSEDE:
STDYMORE: 5
PREF2: 13 49

APPENDIX F - Continued

STARTED: 81 83 2 33 MI 1 2 1 12000 1 2 6 1 . 1 6 6 1 1 4 6 3 2
CAD: 6 6 3 1 1 1 1 1 2 6 1 6 6 4 6 6 2 4 2 2 6 1 2 6 6 6 6 1 2 6 5 1 6 1 1
STRUCDES: 1 6 1 5 1 1 OWN CONSTRN COMPANY EVERYTHING 2
CURRADVA: GAVE BUSINESS END OF CONSTRN:DO'S, DONTS
CURRPROB: LACKS ON SITE HANDS ON EXPERIENCE
COURSEAD: INTERNSHIP, EMPLOYEE MGT
COURSEDE: HUMANITIES, NON-ACCT DEPT ACCT CLASS
STDYMORE: STRUT DESIGN, CONSTRN MGT MANDATORY INTERNSHIP 3
PREF2: 8 45

STARTED: 2 13000 3 2 6 1 2 1 3 6 3 3 6 6 3 3
CAD: 6 4 4 3 1 3 3 3 3 6 6 6 6 3 6 6 6 4 6 4 6 2 2 6 6 6 6 4 6 6 4 3 6 6 6
STRUCDES: 3 6 1 6 1 1 OWNER EVERYTHING 2
CURRADVA: SELF EMPMT FOCUS, PRGM INFO USED DAILY
CURRPROB: LACKS: WK STUDY, REMODLNG EST/MGT CLASS
COURSEAD: BLDR ETHICS, REMODLNG EST, PUBLIC COMM
COURSEDE: PHYSICS, COMPT PRGM, CALC, ENGNG CLASSES
STDYMORE: STRT DESIGN, MGT, EST, & ALL CLASSES HOME IMPVMT, MGT CLASSES 5
PREF2: 18 51

STARTED: 87 91 2 24 MI 1 2 1 22500 6 3 6 2 5 2 3 5 3 4 6 5 1 1
CAD: 6 4 4 3 1 4 4 1 1 2 1 6 6 5 5 5 6 5 4 4 6 . 2 2 6 6 6 4 2 6 5 4 6 6 6
STRUCDES: 2 6 2 6 1 2 RESDL PROJ SUPRTDNT SCHD, CUST SERV, 1
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: REAL ESTATE FINANCE, STRUCTURAL DESIGN CONTINUE BCM GRAD BOOK 12
PREF2: 18 22

STARTED: . . 2 38 OH 1 1 1 26000 1 1 . 1 3 1 3 5 2 2 5 5 1 1
CAD: 4 2 2 1 1 1 2 2 2 1 1 5 3 2 2 5 3 5 1 1 3 1 2 1 2 4 1 5 1 1 2 2 5 5 2
STRUCDES: 2 5 3 5 1 2 VP RESDTAL CONSTRN PLANING, PERSNL, P/L 1
CURRADVA: UNIQUE INDUSTRY REQUIRES FORMAL EXPOSURE
CURRPROB: LACKS: SCHDNG, COMMTNS, BUDGET MGT
COURSEAD: LARGE CORPORATION OPERATIONS
COURSEDE:
STDYMORE: SEMINARS/W MID LEVEL VPS 13
PREF2: 18 19

STARTED: 82 88 2 31 MI 1 2 2 27000 6 3 3 5 3 1 2 3 2 3 5 5 1 2
CAD: 6 3 6 3 1 2 3 2 2 3 2 4 4 3 4 4 6 3 2 2 5 3 3 6 5 6 2 6 5 4 3 3 6 3 2
STRUCDES: 2 6 5 3 1 2 MANUFACTURER'S REP SALES TO GMT 2
CURRADVA: GOOD CORE PROGRAM
CURRPROB: LACKS HANDS ON EXPERIENCE
COURSEAD: HANDS ON EXPERIENCE
COURSEDE:
STDYMORE: INTERPERSONAL COMMUNICATIONS HANDS ON EXPERIENCE .
PREF2: . .

APPENDIX F - Continued

STARTED: 87 91 2 25 MI 1 1 1 22000 1 2 3 4 4 2 5 4 2 2 3 3 3 3
CAD: 1 1 5 3 2 2 3 3 2 3 2 . . 5 4 4 . . 3 . 3 . . . . . 3 . . 4 2 . . .
STRUCDES: . . 2 . 1 1 VICE PRESIDENT ACCTNG, GEN CONTRTNG 2
CURRADVA: EASY COURSES
CURRPROB: SOME TEACHERS ATTITUDES
COURSEAD: EST, TAXES, COST ACCOUNTING
COURSEDE:
STDYMORE: STRICTER ADMISSION REQMT 1
PREF2: 14 18

STARTED: 88 91 2 25 CA 1 1 1 30000 1 1 6 1 1 1 5 4 1 1 1 4 1 1
CAD: 6 6 6 6 2 2 6 3 2 6 2 6 6 1 4 6 6 4 6 6 6 6 1 6 6 6 1 1 6 6 2 6 6 6 6
STRUCDES: 6 6 3 5 1 2 NATNL CONTRC COORDTR NATL ACCTS 2
CURRADVA: COMBINES BUSINESS WITH CONSTRUCTION
CURRPROB: TOO MUCH RESIDTL, LACKS COMMERCIAL
COURSEAD: TECHCL WRITING, COMP SOFTWARE, BUSINESS
COURSEDE: ALL BCM CLASSES UNDER 300 LEVEL
STDYMORE: ALL OF THE CLASSES FIRE SAFETY, SBA COMPETN 13
PREF2: 27 36

STARTED: 76 81 2 35 MI 1 2 1 17000 5 3 3 3 3 1 4 6 1 2 6 3 1 1
CAD: 6 3 4 6 1 . . 2 2 6 1 6 6 2 4 4 6 6 6 6 3 2 2 2 6 6 3 3 1 6 3 2 6 4 3
STRUCDES: 1 6 1 5 1 2 PROJ MGR SUPVSN RESTL REMODLG 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: PROJ MGT, COMM, COST EST, CONSTN MATERLS 5
PREF2: 8 18

STARTED: 89 91 2 26 MI 1 2 1 26000 2 1 1 1 3 1 1 1 1 1 2 4 1 1
CAD: 6 . 1 1 1 1 1 1 1 1 1 3 2 2 3 1 1 2 1 1 1 1 1 1 . 3 3 3 3 3 1 1 3 3 2
STRUCDES: 1 6 1 6 1 1 PRESIDENT SLES, EST, SCHD, SUP 2
CURRADVA: ARCHETECTURE VERY HELPFUL
CURRPROB: MORE EMPYSIS ON PROBLEM SOLVING
COURSEAD: ESTIMATING & SCHEDULING
COURSEDE:
STDYMORE: PROBLEM SOLVING, MATERLS, SCHDNG, PSYCGY 5
PREF2: 8 18

STARTED: 84 88 2 27 MI 1 2 2 18000 6 2 4 5 1 1 3 4 2 1 5 5 1 1
CAD: 3 3 5 3 3 1 1 1 1 3 3 3 3 3 2 3 2 3 1 1 1 2 3 3 3 2 3 3 3 3 4 1 3 4 2
STRUCDES: 2 4 1 3 1 1 RESDL RL ESTAT APPRA RESDTL RL EST APPRSL 2
CURRADVA:
CURRPROB: TESTING NOT ALWAYS REFLECTIVE OF ABILITY
COURSEAD:
COURSEDE: ACCTNG 101
STDYMORE: CONSTRN LAW, UTILITIES, TQM 13
PREF2: 34 45

APPENDIX F - Continued

STARTED: 81 83 2 33 VA 1 2 1 20000 4 2 6 4 2 1 2 4 1 2 6 4 2 2
CAD: 6 3 3 1 1 1 1 1 1 1 1 4 4 3 4 4 1 3 1 1 4 1 2 2 2 3 4 3 1 1 3 1 2 6 2
STRUCDES: 1 2 1 . 1 1 GENERAL CONTRACTOR PROJ MGT, EST, DESGN 2
CURRADVA:
CURRPROB:
COURSEAD: SURVEYING, COMPT USAGE/W CONSTRN PRGMS
COURSEDE:
STDYMORE: PROJ MGT, CONTRACTS 18
PREF2: 21 49

STARTED: 76 80 2 36 NC 1 2 2 25000 2 2 5 2 3 4 4 6 6 3 6 6 3 3
CAD: 6 6 5 6 3 3 6 2 3 6 5 6 6 6 6 6 6 5 5 5 6 6 5 6 6 6 6 4 4 6 5 3 6 6 2
STRUCDES: 3 6 6 5 1 1 VP, PROJ MGR ADMINTRN, EST, MGR 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE:
PREF2: . .

STARTED: 79 83 2 32 MI 1 2 4 16000 6 3 3 3 2 2 4 3 3 1 6 6 2 2
CAD: 6 4 4 3 2 2 2 2 1 1 1 6 3 2 3 6 3 3 2 2 1 1 1 1 1 6 2 3 3 3 4 1 2 6 1
STRUCDES: 1 2 2 3 1 1 VICE PRES PROJ EST, SUPVSN,DSN 2
CURRADVA: WELL ROUNDED PRGM, HELP/W MOST FACETS
CURRPROB: PRGM NAME UNIMPRESSIVE TO CLIENTS
COURSEAD: MANDATORY INTERNSHIP
COURSEDE:
STDYMORE: BASIC MATH, ADV WRITING, COMP PROCESSING INTRNSHIPS, PROPOSL WRTG 34
PREF2: 36 45

STARTED: 84 89 2 28 MD 1 1 2 25000 3 3 6 3 3 1 2 6 3 3 2 5 3 2
CAD: 6 2 2 1 1 2 2 2 1 2 1 6 2 3 3 6 6 4 2 1 6 1 6 6 6 2 6 3 2 6 5 2 1 6 3
STRUCDES: 3 6 2 6 1 2 ESTIMATOR COST CALC, NEG, SERV 2
CURRADVA: WELL ROUNDED
CURRPROB: NEEDS HEAVY COMMECL/INDUSTRL, EST, LAW
COURSEAD: COMPT EST, CONTRCT MGT, AIA DOCUMENTS
COURSEDE:
STDYMORE: ARCHTR, UTILITIES DESGN, CONSTRN METHODS FOCUS ON SPECIFIC AREAS 18
PREF2: 33 35

STARTED: 85 89 2 27 CO 1 2 2 26000 1 3 4 3 3 2 2 5 1 3 5 5 3 3
CAD: . . . 3 1 2 3 1 1 3 3 1 1 1 1 1 1 3 3 3 1 2 3 4 4 3 3 3 2 2 2 2 3 . 2
STRUCDES: 2 . 1 . 1 2 CONSTRTN MGR RUN LARGE SUBDIVISON 2
CURRADVA: GOOD BASIC PROGRM
CURRPROB: NEEDS REAL LIFE SITUATIONS
COURSEAD: SUBCONTRACTOR SPEACHES/SEMINARS
COURSEDE:
STDYMORE: CODES, MATERIALS, TIME MGT TOUR TO JOB SITE .
PREF2: . .

APPENDIX F - Continued

STARTED: 75 80 2 37 NC 1 2 1 15000 3 4 6 3 3 2 3 6 4 3 6 5 2 1
CAD: 6 6 5 6 1 3 6 3 5 6 4 6 4 4 5 6 6 6 6 3 6 4 4 6 6 6 5 6 6 6 4 3 6 6 6
STRUCDES: 3 6 2 4 1 1 OWNER/PAINT CO,ACTNG EVERYTHING 2
CURRADVA: BUSINESS & BCM CLASSES GIVE EDGE
CURRPROB: ON SITE PROBLEM SOLVING NEEDED
COURSEAD: SCHD, COST/QUAL CONTRL, FIRST AID CLASS
COURSEDE: MANUFTRD HOUSING: NEED AS ELECTIVE ONLY
STDYMORE: UTILITS, LD DEVELOPMENT, SCHEDULING ON SITE INTERNSHIP 5
PREF2: 13 18

STARTED: 84 88 2 29 MI 1 2 1 25000 2 1 3 1 3 1 1 3 1 1 4 3 2 2
CAD: 2 2 2 1 1 1 1 1 1 2 2 4 2 2 3 4 2 2 2 2 2 2 3 1 2 3 3 4 1 6 6 1 3 3 6
STRUCDES: 2 4 6 6 1 1 VICE PRES RUN COMPANY 1
CURRADVA: VERY GOOD COURSE
CURRPROB: ALL CLASSES ARE GOOD
COURSEAD:
COURSEDE:
STDYMORE: ACCTNG, ARCHETECHTURE 5
PREF2: 20 45

STARTED: 76 81 2 36 MI 1 2 4 12000 3 4 3 3 3 2 3 6 2 3 6 6 6 6
CAD: 6 3 3 3 2 3 3 2 2 3 2 6 4 4 4 6 3 4 3 3 4 2 3 3 3 6 4 3 3 3 4 3 2 4 3
STRUCDES: 2 3 2 4 1 2 DIR. OF ARCHETECTURE SPACE LAYOUT, DESNG 2
CURRADVA: GIVES WELL ROUNDED VIEW OF CONSTRN INDRY
CURRPROB: NEEDS MORE STRUCTURAL DESIGN
COURSEAD: STRUCTURAL DESIGN, ENGINEERING
COURSEDE: PSYCHOLOGY
STDYMORE: STRUCTURAL, UTILITIES 5
PREF2: 18 21

STARTED: 85 90 1 26 MI 1 2 1 14000 1 5 6 6 2 1 4 5 1 4 2 5 3 3
CAD: 6 6 6 6 1 4 6 2 3 6 2 6 3 5 6 6 6 6 6 6 4 2 4 5 5 6 6 2 3 6 4 4 6 4 3
STRUCDES: 2 6 1 5 1 . SALES OUTSIDE LUMBER SALES 2
CURRADVA:
CURRPROB:
COURSEAD:
COURSEDE:
STDYMORE: 5
PREF2: 18 51

STARTED: 82 86 2 31 IL 1 2 8 24000 2 3 4 3 3 1 3 6 4 3 6 6 3 6
CAD: 6 3 2 3 3 1 3 3 3 2 2 6 6 2 2 6 6 3 6 3 6 3 3 6 6 6 3 3 2 6 4 1 6 6 6
STRUCDES: 2 6 3 3 1 2 MORT LOAN ORIGINATOR ORINTN OF RES MORTGE 2
CURRADVA:
CURRPROB: EMPLOYMENT COUNSELING NEEDED
COURSEAD: MORE ARCHETECHTURAL DRAWING CLASSES
COURSEDE:
STDYMORE: 19
PREF2: 45 49

APPENDIX F - Continued

STARTED: 83 88 2 28 MI 1 1 2 24000 1 2 3 2 3 1 2 6 6 1 2 6 2 1
CAD: 6 1 2 6 1 1 1 1 1 1 1 6 3 2 3 6 1 6 6 6 2 1 1 1 6 2 2 3 1 6 2 1 1 2 1
STRUCDES: 1 6 1 3 1 2 PROJ SUPERINTENDENT SUPV ALL CONSTRCTN 2
CURRADVA: COVERED ALL AREAS OF CONSTRCTN MGT
CURRPROB: LACKS ENOUGH COMMERCIAL/INDUSTRIAL FOCUS
COURSEAD:
COURSEDE:
STDYMORE: SCHD, EST, FONDATN/SOIL MECH 5
PREF2: 30 49

STARTED: 85 90 2 26 MI 1 2 2 25000 4 3 3 4 2 1 6 6 1 3 6 4 1 1
CAD: 6 3 6 3 1 2 2 1 1 2 2 6 6 3 4 6 2 6 3 . 6 2 3 2 6 6 6 4 3 6 4 2 2 6 2
STRUCDES: 1 6 1 6 1 2 RESDTL ENG OWNER REPRESENTATIVE 2
CURRADVA: EASY JOB PLACEMENT FOR STUDENTS
CURRPROB: LACKS ON SITE EXP & COMMERCIAL FOCUS
COURSEAD: ON SITE MGT, OFFICE MGT, EST, BID PREP
COURSEDE:
STDYMORE: COMM CONSTRN METHODS, UTILITIES, STRUCTR FOCUS ON COMMERCIAL 5
PREF2: 18 21

STARTED: 86 89 1 28 CA 1 1 1 30000 1 3 6 4 2 1 3 5 2 6 4 6 3 1
CAD: 1 1 6 6 6 6 6 6 6 6 6 6 6 5 5 4 6 6 6 6 6 6 6 6 6 6 1 6 6 6 2 6 6 6 6
STRUCDES: 6 6 6 6 1 2 ARCH SALES CONSULTNT SLES, SPEC WRITING 2
CURRADVA: BCM COURSES HELPFUL
CURRPROB:
COURSEAD:
COURSEDE: BCM INTRODUCTORY COURSE
STDYMORE: PROJ MGT, CONSTRN CONTRCTS, EST, WRITING 13
PREF2: 15 40

STARTED: 89 91 2 25 MI 1 2 4 25000 1 3 6 2 3 3 3 5 4 4 6 6 3 3
CAD: 6 3 6 3 3 3 4 3 5 5 4 5 5 5 4 6 6 5 6 5 5 3 3 4 6 6 4 3 6 6 5 4 6 5 6
STRUCDES: 3 6 3 5 1 2 SALES REP/ESTMATOR QUOTE PROJ, BUT MATL 2
CURRADVA: GOOD ENTRY LEVEL INFO FOR RESIDENTIAL
CURRPROB: TOO MUCH RESIDENTIAL
COURSEAD:
COURSEDE:
STDYMORE: MORE COMM/INDUS CONS TEC 3
PREF2: 12 21

STARTED: 78 80 2 37 IL 1 2 1 17000 4 2 3 2 4 2 6 4 1 1 2 4 1 1
CAD: 2 1 2 1 1 2 1 1 1 1 1 3 4 2 4 4 3 3 2 2 3 1 2 2 2 4 2 2 1 1 3 2 4 3 2
STRUCDES: 2 3 2 4 1 2 SENIOR ESTIMATOR CONTRCT NEG, BUYER 2
CURRADVA:
CURRPROB: LACKS COMMERCIAL FOCUS
COURSEAD:
COURSEDE:
STDYMORE: CASH FLOW & MAN HOUR SCHEDLNG COVER ALL TYPES CONSTRTN .
PREF2: . .

APPENDIX F - Continued

STARTED: 88 92 1 . MI 1 2 2 28000 1 4 6 2 3 1 1 5 2 3 2 3 1 1
CAD: 1 1 1 1 1 1 1 1 2 2 1 3 4 3 4 2 2 5 3 3 3 2 2 2 1 2 2 2 2 2 3 3 3 6 1
STRUCDES: 1 6 1 6 1 2 PROJ ENGINEER SCHD, CHANGE MGT 1
CURRADVA: EST, SCHDLNG, ARCH DRAFTING
CURRPROB: NEEDS MANDATORY CAD CLASS
COURSEAD: CAD, SURVEYING, CIVIL ENGINEERING
COURSEDE:
STDYMORE: SCHD, EST, ARCH DRAFT, BLUEPRINT READING FOCUS ON CAD .
PREF2: . .

STARTED: 88 92 1 23 MI 1 1 1 28000 6 3 3 3 2 1 2 4 1 1 3 4 1 1
CAD: 3 1 3 1 1 1 1 1 1 3 3 2 3 1 3 6 3 6 2 2 6 1 1 1 1 6 3 2 2 6 2 3 6 3 2
STRUCDES: 3 6 2 6 1 2 CUST SERVICE MGR WARRANTY SERVICE 1
CURRADVA: NETWKING, WELL ROUNDED, INVOLVED INSTRTR
CURRPROB: SOME CLASSES GAVE TOO MICH INTO TO LEARN
COURSEAD: CONTRCTOR RELATIONS, PROFESSNAL CONDUCT
COURSEDE:
STDYMORE: INTERNSHIP/PRACTICAL EXPERIENCE 5
PREF2: 12 21

STARTED: 86 91 . 25 TN 1 1 8 48000 1 1 4 4 2 3 3 5 3 1 6 6 1 1
CAD: 6 1 5 1 3 1 1 4 3 3 2 5 5 1 6 6 4 6 1 1 6 2 2 6 6 6 3 5 3 6 5 1 6 3 6
STRUCDES: 3 6 3 5 1 2 REAL EST. REPRESENT. ACQUISITION 2
CURRADVA: .
CURRPROB: TOO MUCH RESIDENTIAL EMPHASIS
COURSEAD: BUSINSEE PLANNING, MORE FINANCE
COURSEDE: .
STDYMORE: BUS. LAW, PC USE PRODUCE A HYBRID GRAD. .
PREF2: . .

STARTED: 76 81 2 36 KS 1 2 2 15000 4 3 6 4 6 1 3 6 1 3 6 6 6 3
CAD: 6 6 6 6 2 3 4 2 2 2 2 6 5 6 6 6 2 5 5 4 6 1 3 2 5 6 5 6 1 1 4 3 6 6 2
STRUCDES: 1 3 1 6 1 2 NATIONAL ACCT EXEC. SALES 2
CURRADVA: .
CURRPROB: TOO MUCH RESIDENTIAL EMPHASIS
COURSEAD: .
COURSEDE: .
STDYMORE: . . 35
PREF2: 41 .

APPENDIX F - Continued

STARTED: 77 81 2 35 GA 1 2 1 15000 4 2 6 3 3 1 3 6 1 2 6 4 2 3
CAD: 6 4 4 2 1 3 6 2 3 4 4 6 6 4 4 6 4 4 2 2 4 3 4 4 6 6 6 3 3 6 4 3 6 6 3
STRUCDES: 2 6 2 6 1 1 PRESIDENT/BUILDER GENERAL MGT. 1
CURRADVA: GOOD FOCUS AND PREP FOR JOB MARKET
CURRPROB: TOO MUCH FOCUS ON INSTRUCTOR SUCCESS
COURSEAD: CPM, ORGANIZATION, MORE INDUS. SPEAKERS
COURSEDE: SCIENCES
STDYMORE: BUS LAW, COMP SCI, URBAN PLAN, ACCTG SEMINARS BY LG. BLDRS. 5
PREF2: 18 33

Number of cases read = 150 Number of cases listed = 150

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