

March 4, 1991

Faculty Committee on Tenure, Promotion, and Leaves:

To be retained after six years, all full-time faculty are required to apply for tenure. Since I desire to continue full-time teaching, I am submitting the items listed on the attached page.

I appreciate the willingness of the members of this committee to examine this large body of material, to assess its strengths and shortcomings and to render a judgement on whether I can be of continuing service to Augsburg College.

I hope that my efforts in promoting the common good at Augsburg College will warrant a favorable review of my efforts to be offered tenure.

Sincerely yours,

Milo A. Schield, PhD
Associate Professor
Department of Business and MIS

ENCLOSURES

1. Letters of Reference
 1. Division Chair: Richard Nelson
 2. Department Chair: Amin Kader
 3. Other tenured faculty in Department: Tom Morgan and John Cerrito
 4. Former Student: Emily Blados (Graduated Spring, 1990)
 5. Augsburg faculty member: Dr. Earl Alton, Chemistry Dept.
 6. Professional Associate: Dr. Rick Thoni, Director of Weekend College
 7. Outside Reviewer: Dr. Bernie Folz, Chair of QM Dept., Univ. of St. Thomas
2. Summary Statement
 1. Contributions to the college and the department
 2. Understanding of and allegiance to the aims and objectives of the college
 3. Professional goals at Augsburg or elsewhere
 4. Assessment of the role that can or should be fulfilled in the future
 5. Other comments in support of tenure
3. Curriculum Vitae
4. Summary of Annual Reports to the Dean
 1. List of courses taught
 2. Self evaluation of these courses
 3. Summary and interpretation of student evaluations
 4. Peer evaluations of teaching and contribution to the college
 5. Committee and non-teaching assignments including a self-evaluation
 6. Professional activities (publication, etc.)
 7. Community contributions
 8. Number of advisees
5. Annual Reports to the Dean (1986-1990)
6. Faculty Handbook Requirements
 1. Educational preparation
 2. Teaching competence
 3. Productive scholarship
 4. Employment history
 5. Other contributions of significance
 6. Commitment to the goals of the college
 7. Personal qualities
7. Copies of Memos
 1. College and General Education
 2. Department
 3. MIS Program
8. Copies of recent publications (Soft-bound manuals)
 - Augsburg Computer Handbook (I and II)
 - Processing Survey Data using OMR Forms, Lotus, Dbase and Minitab

SUMMARY STATEMENT

2.1A: Contributions to the MIS Program

In 1985, I was hired by the Department of Business Administration and Economics to direct the new concentration in Management Information Systems. The department wanted someone who had good academic credentials, a strong technical background, extensive business experience, and good communication skills plus a strong commitment to excellence and to program development.

The new MIS concentration included three new upper-division courses. I was hired to teach these courses and to restructure the entry-level computer course. At that time, Augsburg had no personal computers for student use. With Dean LaHurd's approval, I rented 6 PCs to initiate the new program. After my first year, I was appointed the lead instructor by the Department.

My first change in the curriculum was to create MIS 370 (Advanced Personal Computing) as a requirement for MIS majors and minors. This course introduces basic programming concepts while studying PC-based application languages: Lotus macros, Dbase command files, etc. I have taught every section (save one) of this course for the past five years.

My second change was to upgrade MIS 175 (Introduction to Computing for Business and Economics). Previous instructors had taught Cobol and Basic. I replaced these languages with PC applications: Lotus, Dbase and Word Perfect.

My third change was to upgrade MIS 375 (Information Systems in the Organization). Generally this was an introduction to the conceptual foundations of MIS. I added a consulting/communications requirement. Students analyze actual problems, prepare one written memo per week and give stand-up verbal presentations. According to a Cargill survey, no other school in Minnesota offers a course on management consulting.

My fourth change was to upgrade MIS 475 to use Excelerator: an \$8,000 CAD package to model information systems. I procured 8 copies of this product at \$50 each. In the twin-cities today Excelerator is available only at the U. of M, St. Thomas and at Augsburg.

My fifth change was to recommend that MIS be elevated from a concentration within Business Administration to a full major. Academic Affairs agreed and now MIS is a major. Approximately 90 students currently indicate MIS as their major.

My sixth change, in progress, is to upgrade statistics (MIS 279) to include a student project involving statistical analysis using statistical software.

My seventh change, in progress, has been unsuccessful to date. For the last three years, we have tried, unsuccessfully, to hire a second full-time faculty. I remain the only full-time faculty member who teaches upper division courses in MIS.

SUMMARY STATEMENT

2.1B: Contributions to my Department

Within my department (Business and MIS), I have been active in initiating change, helpful in working with new faculty, and supportive of the role of Business and MIS within a liberal-arts environment.

I have been a regular attendee and participant in department meetings. I have chaired four faculty search committees. I was on a subcommittee to examine problems in Economics. I have substituted for the Department Chair at meetings of Department Chairs. I have represented the department in sessions sponsored by Admissions. WEC normally refers prospective MIS students to talk with me prior to their admission into WEC. I maintain active contact with Augsburg alumni who graduated in MIS.

In Amin's absence last year, I assumed responsibility for collecting, compiling, and submitting the catalog changes for the day school and WEC catalogs.

As the lead instructor in MIS (where 10 sections are taught by adjunct faculty), I have been responsible for:

- locating adjunct faculty to teach MIS courses (2 new faculty this past year)
- training and monitoring the performance of these adjunct faculty
- scheduling the 20 sections of MIS (10 in day school and 10 in WEC), and
- setting objectives to support other classes (eg. statistics, market research).

As the departmental representative to the Academic Computer Committee, I requested 386sx-level computers for all departmental faculty who gave computer-based assignments. The committee agreed and awarded our department six new computers last year. I was responsible for selecting equipment that would meet the present and future needs of our department.

As the only full-time MIS faculty in the department, I have assumed the responsibility for answering the computer-related questions of other faculty members, for training them on new programs and for making recommendations on software and hardware.

Based on problems I encountered in the combined Department of Business and Economics, I explored the idea of separating this large department into two separate departments. I documented the outstanding issues together with both the pro and con of separating. After issuing this document to my colleagues, we met with Dean LaHurd in an all-day meeting and voted to separate.

I proposed adding Math Placement Level requirements to three MIS courses (175, 279 and 479) and the department agreed. I recently proposed upgrading MIS 279 (Statistics) to include a computer component and the analysis of survey data. I have received strong support from many faculty in Business on my proposal. I have discussed the implementation of a system of peer feedback among the faculty in Business and MIS and will bring this forward in the near future.

SUMMARY STATEMENT

2.1C: Contributions to the Related Departments

I have strongly supported those departments that directly support the MIS program.

I have consistently supported the Department of Mathematics in their mission. Last year, the Computer Science Department wanted to add MATH 121 (Discrete Mathematics) to their curriculum. I agreed with their idea but did not want to increase the total number of courses. I recommended that Business and Economics drop MIS 479 as a required course even though this decreased the number of sections taught in our department. The department faculty agreed with my suggestion.

I have lobbied strongly and successfully for mathematics prerequisites for selected courses in Business, Economics and MIS. Now all students majoring in these areas are required to achieve a Math Placement level III. My next step is to insure that the Registrar's office can confirm this prerequisite at the time a student registers for a class.

I have supported the Computer Science Department in their mission to introduce theoretical principles rather than simply teach students how to write computer programs. I supported their request to expand into WEC; I requested that they develop a course on COBOL that they first taught this past interim. When Larry Crockett's CSC 145 class in WEC lacked sufficient enrollment, I approved his teaching of MIS 175 as a substitute. I, in turn, have taught a course in Computer Science (CSC 352).

I have supported the Economics Department by requiring that MIS majors complete five courses in Economics. This number is considerably higher than in any other MIS program that I know of.

I have also supported those departments that provide essential services to MIS majors.

I have supported the Department of Philosophy by recommending in the catalog that MIS majors take PHI 130: Logic. I have helped David Appoloni use computer software in teaching Logic.

I have supported the Math Department by recommending in the catalog that MIS majors take MAT 122: Calculus for the Social and Behavioral Sciences.

I have supported the English Department by recommending in the catalog that MIS majors take ENG 223: Writing for Business and the Professions. I have also asked the English department for names of upper-level English majors to help me in grading students papers. In this way, students would get quality feedback on their writing style even though they were writing memos in MIS 375.

SUMMARY STATEMENT
2.1D: Contributions to the College

For the past six years I have been privileged to be part of Augsburg College. During those years I have served this community to the best of my ability.

As an active faculty member, I have also tried to support all Augsburg faculty. I have been active in looking at inequities in faculty salary. Half of the faculty promoted in the last five years have been denied the normal 1.6% annual increase for an average of six years. I have insisted that this practice is inequitable. It constitutes a negative reward for excellence. I have also asserted that the issue of market differentials needs to be reexamined (especially for the Sciences and Mathematics). I have also asserted that the differential for having a PhD is woefully inadequate and hampers our ability to compete for PhD faculty in all areas. I have raised each of these issues with Dean LaHurd. Dean LaHurd has been open to these assertions and has asked Larry Copes and I to provide input in revising the salary program.

As an active faculty member I have served on various committees. This is my sixth year on the Academic Computer User Committee. During that time, this committee has spent approximately \$500,000. Last year alone, I invested over 100 hours studying how this money might be spent for the good of the entire college. This is my third year on the Educational Resources Committee. I am currently serving on the skills sub-committee of the General Education Committee.

I have provided support to many staff at Augsburg including Administrative Computing (PC support), Business Office (Lotus support), Registrar's office (Dbase systems design), Work-study (Dbase support) and WEC (desk-top publishing). I have encouraged Augsburg staff to attend my MIS 175 class (Intro to Computers) so they could improve their computer skills. To date five staff members have attended my class.

I strongly support the liberal arts tradition. I have taught several courses in Economics including ECO 113 Principles of Microeconomics, ECO 313 and Intermediate Microeconomics. I also created two new interim courses in Economics:

Interim 1988: Economics of Risk

Interim 1990: Economics of Legal Reasoning

Although I completed my Bachelor's, Master's and PhD in Physics, I have continually evidenced my interest in the liberal arts. As an undergraduate, I minored in Economics.

After completing my PhD, I took graduate courses in Economics at the University of Iowa. Since coming to Augsburg I have taken graduate courses at the University of Minnesota in Economics, Insurance, History and Business, Government and Society.

During past summers, I attended week-long seminars at the University of California San Diego (Philosophy), Dartmouth (Economic History) and Stanford (Austrian Economics).

SUMMARY STATEMENT

2.2: Allegiance to College Goals

I view Augsburg College as a liberal-arts based college with a spiritual foundation.

I strongly support an education grounded in the Liberal Arts. I am dismayed that we do not have (to my knowledge) any courses in geography, metaphysics, epistemology, philosophy of education, grammar or comparative linguistics. I am unhappy that students are not required to take a course in ethics and in either critical thinking, logic or quantitative reasoning.

I strongly support an education based on a spiritual motivation. People are more than bodies and minds. People have goals. People have an inner freedom of choice. Yet when a choice has a long-term benefit but is costly in the short run, people need encouragement to make that investment or sacrifice. An education based on a spiritual foundation can help us examine our lives, make better choices and thus help us experience the joy that comes from living a good life.

Without an emphasis on values, a college education, even a major in Philosophy, is a little closer to being a very sophisticated form of vocational training. Truth without Goodness is somewhat sterile and can be pernicious.

Augsburg is committed to an education centered in the life of the city. I strongly support this emphasis. Some colleges are removed from the life of the city. They maintain their own life (much like that in a medieval monetary or covenant). I support the idea of a college involving itself in the life of the community in its most elementary geographical unit: the city. I see the city as one of the great inventions of mankind. I am glad that Augsburg has chosen to include this aspect of human society in its approach.

Augsburg is committed to an education that may help a student pursue a particular career: Business, MIS, Education, Social Work, etc.

I have previously taught at the University of Iowa. My average class size was over 150 students and there was no relation between science and the liberal arts. Because of this experience, I am extremely happy teaching at Augsburg College with its strong liberal-arts foundation, its sensitivity to life in the larger community, and its support of programs in Business and MIS.

SUMMARY STATEMENT

2.3: Professional Goals

I have three distinct goals professionally: to introduce modern educational tools, to support MIS-related programs, and to publish.

1. I want to help in introducing modern educational tools at Augsburg by using
CD-ROM media for student use (90/91 Faculty Development Grant)
multi-media computer-based presentations (sight and sound)
Desktop publishing and professional word processing
telecommunications and networking
self-paced, computer-based educational materials
2. I want to support MIS-related programs at Augsburg by developing a
strong major and minor in MIS
stronger program in quantitative reasoning and decision science
stronger program in applied mathematics and operations research
Center for Small Business as envisioned by Amin Kader and John Cerrito
3. I want to publish in several areas. I have spent almost six years writing countless memos and papers. During that time, I have completed two manuals of approximately 25,000 words each. I am ready to take on larger publishing projects. I have both the intellectual basis and the inner motivation. In spending more time writing, I may be less visible in dealing with students, but my goal is to support the learning process. I may not complete all of these in the next 6 years, but they are active interests. I am currently collecting materials for the following publications:
An Introduction to MIS as Applied Critical Thinking
Quantitative Reasoning and Statistics: An application of epistemology
Economics for majors in Business: a historical approach
The Economic Analysis of Legal Institutions
The Morality of Capitalism

SUMMARY STATEMENT

2.4: Future Role at Augsburg

I am very interested in helping guide the future of Augsburg College.

I am very interested in supporting Augsburg's new requirements for General Education. I am currently proposing a course on critical thinking with an emphasis on quantitative reasoning. Having worked with a wide-variety of special-needs students, I have some ideas on how to overcome some of their learning deficits.

I am very interested in developing a new program at Augsburg in Business, Government and Society. Given Augsburg's major in Business and Augsburg's liberal-arts orientation, this seems like an obvious program. Having just completed several graduate courses in this area at the University of Minnesota, I feel qualified to teach courses in this area.

I am interested in designing a brochure on the MIS program at Augsburg for prospective students. Rick Thoni and Admissions are very interested in this project.

I am very interested in monitoring the installation of the new computer software for the Registrar's office. I want to insure that faculty get maximum benefit. Advisors should get updated copies of their advisees status. Teachers should know whether the students have completed the required prerequisites and whether students have any special problems (ESL, Critical Thinking, Reading, Writing, Math Level, etc.).

I would be extremely interested in being the faculty representative on the Budget Committee. I see Augsburg as having extremely limited financial resources. Its future will be highly affected by changes in demand. I want to see Augsburg survive and prosper for the benefit of its staff, its faculty and its students.

SUMMARY STATEMENT

2.5: Other Comments in Support of Application

Section 6 of this document summarizes related information according to the criteria in the Faculty Handbook.

Section 7 of this document includes copies of memos that I have written on a wide range of subjects during the past 6 years at Augsburg. From reading these memos, you can observe my actions in the past and thereby have some idea of what to expect in the future. And although some of these memos involve disagreements with Dean LaHurd, I have found him to be an extremely straight-shooter who encourages faculty to speak their mind without feeling either intimidated or guilty or resentful. I look forward to pressing for an increase in the PhD differential at Augsburg.

Section 8 of this document includes copies of my recent publications.

Section 9 of this document includes the student evaluations for many courses.

CURRICULUM VITAE MILO SCHIELD

3.1 Augsburg Employment

Events:

- 1985: Appointed full-time Assistant Professor in Business & Economics
- 1987: Elected "Distinguished Faculty of the Year" by Augsburg Seniors.
- 1990: Promoted to Associate Professor after 4 years at Assistant level.
- 1991: Awarded a Faculty Development Grant to use CD-ROM in class

Committees:

- 1985-Now: Academic Computer User Committee
- 1986-Now: Educational Resource Committee (Chair for 87-89)
- 1990-Now: Skills Subcommittee of General Education Comm.

Advisor:

85 MIS majors in WEC plus 10 MIS minors and majors in Day School

3.2 Previous Academic Employment

National College	1978-1983	Part time Instructor in MIS and Business
University of Iowa	1968-1971	Full time Instructor in Physics

3.3 Concurrent Academic Employment

Univ of St. Thomas	1985-Now	Adjunct Faculty in Quantitative Methods
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3.4 Professional Background and Post-Secondary Education

Iowa State Univ.	1958-1962	B.S.	Physics and Economics
Univ. of Illinois	1963-1965	M.S.	Physics and Mathematics
Rice University	1965-1968	Ph.D	Space Physics
Univ. of Iowa	1968-1970	Postgraduate	Econ. & Statistics (4 courses)
Univ. of Minn.	1985-1988	Postgraduate	Bus/Gov/Society (12 courses)
National Exam	1978	CMA	Certificate in Mgmt Acctng
National Exam	1978	CPA	Passed Law and Audit
National Exam	1978	Actuarial	Passed Exam #1

3.5 Professional Activities

Meetings:

- 1987: One week seminar: Philosophy & Society (Univ.Calif., San Diego)
- 1988: One week seminar: History & Society (Cato Institute: Dartmouth)
- 1989: One week seminar: Austrian Economics (Stanford University)
- 1990: IBM Seminars on Enterprise Modeling & Case Tools (40 hours)

Publications:

- 1987: Augsburg PC Handbook Volumes I and II
- 1991: Processing Survey Data using OMR, Lotus, Dbase and Minitab

Honors:

- 1986: Elected "Distinguished Faculty" by Augsburg Seniors
- 1990: Promoted to Associate Professor
- 1991: Received Faculty Development Grant to use CD-ROM for class.

In Progress:

- Development of a course on Critical Thinking and Quantitative Reasoning
- Pamphlet on Statistical Reasoning as Applied Critical Thinking
- Book: Introduction to MIS (Applied Critical Thought; CD-Rom based)

Committee Assignments

- 1985-86 ACUC
- 1986-87 ACUC and ERC
- 1987-88 ACUC and ERC (Chair)
- 1988-89 ACUC and ERC (Chair)
- 1989-90 ACUC and ERC
- 1990-91 ACUC, ERC & Skills Subcommittee of General Education

Leaves of Absence:

- 1985-91 None

3.6 Community Activities

- 1985-1986 Finance Committee of Linden Hills Cooperative
- 1985-1989 Parental Sponsor of Youth of Unity
- 1986-1989 Support to Cross Roads Adoption Agency

3.7 Courses Taught at Augsburg

- 1985 MIS 175, 370, 375, 475, and CSC 352
- 1986 MIS 175, 370, 375, 475, and 476
- 1987 MIS 175, 370, 375, 475, 476, and Economics of Risk
- 1988 MIS 175, 370, 375, 279, ECO 111 and ECO 313
- 1989 MIS 175, 370, 375, ECO 313 and Economic Analysis of Legal Reasoning
- 1990 MIS 175, 370, and 375

3.8 Business Experience

- | | | |
|--------------------|-----------|--|
| Consultant | 1988-1989 | Schild Management Company, Denver, Co. |
| St. Paul Companies | 1978-1984 | Senior Operations Research Analyst |
| Fox & Co., CPA | 1976-1978 | Senior Management Consultant |
| Bantam Data | 1972-1976 | President and Co-founder |

IV. SUMMARY OF ANNUAL REPORTS 1985-1991

A. LIST OF COURSES TAUGHT

Day Program, Weekend College and Interim

# TIMES TAUGHT	COURSE TITLE
24	MIS 175: Introduction to Computing
1	MIS 279: Statistical Analysis
9	MIS 370: Advanced Personal Computing
8	MIS 375: Information Systems
4	MIS 475: Systems Analysis & Design
3	MIS 476: Systems Projects
1	CSC 352: Database Design
2	ECO 113: Principles of Microeconomics
2	ECO 313: Intermediate Microeconomics
1	ECO 319: Economics of Risk
1	ECO 319: Economics Analysis of Legal Reasoning
1	Special Statistics Project for Interim

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57 courses in 6 years (10 for 4 and 9 for 2 with one interim off)

B. SELF-EVALUATION OF THESE COURSES

MIS 175 INTRODUCTION TO COMPUTERS FOR BUSINESS & ECONOMICS

Background: I have changed this course substantially since I arrived. Previously it was a language course (COBOL or BASIC). I eliminated these languages to focus on application packages (LOTUS Spreadsheet and DBASE Database).

Evaluation: I am proud of the changes I have made in this course. Other colleges have since switched to this format. I feel good about my teaching style in working with entry-level students. I am patient and available to the students without compromising the course requirements. I can appreciate individual diversity in background, ability and learning style. I believe my approach is effective with both the Day and Weekend students. I am continuing to upgrade this course. This year I am including Minitab for the first time.

MIS 370 ADVANCED PERSONAL COMPUTING

Background: I created this course during my first Interim at Augsburg. Subsequently the Department agreed to make it a required course in the MIS program. Enrollment has increased substantially. Last year over 65 students took this course.

Evaluation: I am extremely proud of this course. I expend a great deal of effort to keep this course up to date and have upgraded it substantially each year. In Spring, 1989, I worked my students harder than I have ever worked any group of students taking this class. I even gave a final that took the average Weekend College student over 3 hours to complete. Yet that same class gave me the highest student reviews I have ever received (3.91 out of 4.0; see page 14).

MIS 375 INFORMATION SYSTEMS IN ORGANIZATIONS

Background: This is a non-programming course. The focus is on solving computer-related problems and communicating the results. Students are required to complete proper business memos (spelling, grammar, logic and style). Students evaluate a new business problem each week. Invited speakers have included Laurel Orthmeyer (WEC), Bob Gores (Bookstore), Burt Parsons (Registrar), Mike Ranum (Financial VP), Steve Terrien (Administrative Computing), and Jim Wenninger (Plant Services) Students are evaluated on their analysis, writing and their speaking.

Evaluation: I am extremely proud of my development of this very unique course. It is based on my personal experience with a CPA firm as a Management Consultant. It reflects my emphasis on logical analysis of problems. Many students have told me that this course has been particularly helpful in preparing them for after-college challenges. I just received a faculty development grant to include access to current computer publications using a CD-ROM. I will initiate this information retrieval technology next year.

The student feedback on this course from alumni has been very positive. I have heard from several MIS graduates that this course was the critical factor in helping them get a professional-level job (Systems Analyst at Boeing, Systems Analyst at Cargill, Programmer Analyst at Hennipin Medical Center, Programmer Analyst at West Publishing).

MIS 475 SYSTEMS ANALYSIS & DESIGN

Background: I have upgraded this course to include EXCELERATOR: a new state-of-the-art CAD (computer-aided-design) package. Index Technology has provided Augsburg with 6 copies of this software (\$8500 each) at \$50 each.

Evaluation: I enjoy integrating business-related problems into an academic environment. Students who have completed this course have taken jobs in industry as analysts (bypassing the normal 2 year programming requirement).

MIS 476 SYSTEMS PROJECTS

Background: This is the capstone course for the MIS program. It involves an extensive project that integrates many different aspects of the MIS curriculum

Evaluation: I am good at teaching this course. Given the shortage of faculty, I have not been able to teach it for the past 3 years. I look forward to hiring a second faculty member in MIS and to being able to teach this course in the future.

MIS 279 INTERMEDIATE QUANTITATIVE METHODS

Background: At Augsburg, statistics is currently not computer-based. I am accustomed to teaching it as a computer-based course with a class project. I have taught this course for the past 5 years at St. Thomas (with excellent student reviews).

Evaluation: I received my lowest evaluations at Augsburg because of teaching this course in Weekend College. I found it impossible to squeeze the material into the reduced time available while maintaining my standards. Given my goals for this course, I decided that I would not teach this class again in WEC (unless labs were scheduled in advance). I will be teaching this course next year in the day program.

ECO 313 INTERMEDIATE MICROECONOMICS

Background: Tom Morgan and I both taught this course using a text by David Friedman. My students enjoyed it tremendously. It focused on both the monetary and non-monetary aspects of economic principles. We discussed the effects of regulations (tariffs, quotas, price controls) and the effects of different laws (acceptable marriage practices, criminal punishments, public choice incentives, etc).

Evaluation: I felt very good about the course. My students enjoyed this course more than they had expected. My reviews were good (especially for Microeconomics).

ECO 113 PRINCIPLES OF MICROECONOMICS

Background: This is a traditional microeconomic principles course.

Evaluation: I did fairly well in teaching this course for the first time. It gave me a good foundation for teaching Intermediate Microeconomics.

ECO 319: ECONOMIC ANALYSIS OF LEGAL REASONING

Background: Used modern idea of transaction costs to allocate property rights. Applied theory to the issue of airport noise. Visited Metropolitan Airport Commission staff at MSP airport; talked with legal counsel about legal issues.

Evaluation: Good blend of theory and practice. Course was very enjoyable.

C. Augsburg Student Evaluations

Augsburg has tabulated student replies to the following questions:

Q 14 "What is your overall evaluation of the instructor's teaching of this course?"

Q 15 "What is your overall evaluation of the course?"

Students selected from 4 ordinal answers: (a=excellent, b=good, c=fair, d=poor). I mapped the individual ordinal scores onto a quantitative scale with 4 points: 4.0 = A, 3.0 = B, etc. The average of my student evaluations is summarized below. I have shown this average to these two questions for the classes that I taught during 1986-89.

CLASS	Program	Term	Q 14	Q 15	Difference
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BUS 370	WEC	Spring 89	3.91	3.82	+.09
BUS 370	WEC	Spring 89	3.26	3.09	+.17
BUS 175	WEC	Fall, 88	3.24	3.00	+.24
BUS 370	WEC	Spring 88	3.18	3.27	-.09
ECO 313	WEC	Spring 88	3.07	2.86	+.21
ECO 113	WEC	Winter 88	2.75	2.63	+.12
BUS 279	WEC	Winter 88	2.44	2.28	+.16
BUS 375	WEC	Fall, 87	2.15	2.00	+.15
BUS 175	WEC	Fall, 87	3.56	3.11	+.45
BUS 375	DAY	Spring 89	3.67	3.11	+.56
BUS 175	DAY	Spring 89	3.41	3.35	+.06
BUS 370	DAY	Fall, 88	3.50	3.67	-.16
BUS 175	DAY	Fall, 88	3.55	3.45	+.10
BUS 175	DAY	Fall, 88	3.41	3.33	+.08
BUS 175	DAY	Fall, 88	3.57	3.43	+.14

Generally my scores are at least good. Generally Instructor score exceeds my Class score. Of these 15 classes that I taught during the past 2 years,

I have had one course with a score above 3.90

WEC BUS 370 Advanced Personal Computing

I have had five courses with scores greater than 3.5.

WEC BUS 370 Advanced Personal Computing

WEC BUS 375 Information Systems in Organizations

WEC BUS 175 Introduction to Computing (1 section)

DAY BUS 175 Introduction to Computing (2 sections)

I have had 3 classes with scores below 3.0.

WEC BUS 279 Intermediate Quantitative Methods

(Inadequate time in WEC; not computer-based)

WEC BUS 375 Information Systems in the Organization

(No idea; received 3.67 in another section).

WEC ECO 113 Principles of Microeconomics.

(First time teaching Econ at Augsburg; received a better score in 313)

Interpretation of Student Evaluations

Most of the evaluations of my classes and my teaching have been very favorable. Students indicate that I am very enthusiastic and well prepared with examinations and grading practices that are tough but fair. Most students feel that I am concerned about their progress as students and attempt to understand their individual needs as learners. Student evaluations of selected courses that I have taught over the years are included in my personnel file.

C. Committee and Non-teaching Assignments

I have served on the following Committees: ACUC (Academic Computer User Committee), ERC (Educational Resources Committee) and the Skills Subcommittee of General Education Committee

Number Years	COMMITTEES /ASSIGNMENTS
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6	Academic Computer User Committee (ACUC)
4	Educational Resources Committee (2 years as Chair)
4	MIS Faculty Search Committee (4 years as Chair)
1	Departmental Committee on Economics
1	Departmental Liaison with Registrar on Catalog Changes

These assignments are shown below by academic year:

Year	Committee
85-86	ACUC
86-87	ACUC and ERC
87-88	ACUC and ERC (Chair of ERC)
88-89	ACUC and ERC (Chair of ERC)
89-90	ACUC and ERC
90-91	ACUC, ERC and Skills Subcommittee

I have had one non-teaching assignment during interim 1991. I wrote, published and distributed the 25,000 word manual entitled Processing Survey Data. A copy of this manual is a part of my file.

Self-Assessment of Committee Assignments

ACUC: I have been primarily responsible for the IBM portion of the computer lab in the basement of Foss Center. I have recommended the purchase of over \$80,000 in hardware and over \$20,000 in software over the past five years.

I believe I am viewed as a good committee member. Yes, I always have an agenda. Yes, I have proposals to spend the entire committee budget on PC equipment. Yet I am willing to listen and I am willing to compromise for the good of the whole institution.

In a collegial institution like Augsburg, I believe that serving on committees is a very important obligation. I would have enjoyed serving on a wider variety of committees. But as the sole faculty in the MIS program, I felt it imperative that I serve actively on the Academic Computer User Committee.

This committee had a budget of nearly \$100,000 per year. Despite personal differences, that committee has been extremely successful in meeting the academic computing needs at Augsburg.

ERC: For better or worse, I see the ERC as lacking a mission. ERC was formed to eliminate the need for 3 subcommittees: Library, Audio Visual and Academic Computing. Yet these three groups function very effectively on their own. ERC lacks the expertise to make policy decisions or to give specific recommendations to these 3 subcommittees. ERC can act as a champion, but frankly Elaine Kline, Brian Hackney and Larry Ragland are much more effective speakers for the needs of their respective organizations.

Eugene Skibbe spoke for the majority of the committee last year when he said we should simply allow the subcommittees to function effectively without attempting to review and control their budgets. As Chairman, I agreed with the committee's thinking. As such, I scheduled very few meetings. I did work to obtain a formal acknowledgement by the Senate of these 3 subcommittees. As Chairman, I attended the meeting of the Academic Senate (to review the charter of the committee) and to present the committee's view on their mission.

SKILL SUBCOMMITTEE: I have provided assistance on the word processing, quantitative reasoning and critical thinking aspects of the entry and exit-level skills. I have proposed a course to meet the needs of those students that need a course in critical thinking with an emphasis on quantitative reasoning.

D. Peer Evaluation of teaching and Contribution to the Department

See the letters of recommendation from the three tenured faculty in my department.

E. Professional Activities (Including new course development)

NEW COURSE:

MIS 370 Advanced Personal Computing (1985)

REVISED COURSE:

MIS 375 Revision in progress based on access to CD-ROM

GRADUATE COURSES: University of Minnesota

Completed 12 graduate-level courses in Business, Government & Society

PUBLICATIONS

1987: Augsburg Personal Computer Handbook (4/21/87) Part I and Part II

1991: Processing Survey Data using OMR Forms, Lotus, Dbase and Minitab

HONORS AND AWARDS

1986: Distinguished Faculty Teaching Award

1990: Promoted to Associate Professor

1991: Awarded a faculty development grant

LECTURES, PROFESSIONAL MEETINGS, AND OTHER ACTIVITIES

1990: IBM SEMINARS ON CASE TOOLS AND ENTERPRISE MODELING
40 hours of seminars at the IBM Office in Minneapolis

CONFERENCES/SEMINARS

1987: FOUNDATIONS OF PHILOSOPHY: Metaphysics and Epistemology
Week-long seminar at the University of California, San Diego

1988: CATO SEMINAR: History and Political Science
Week-long seminar at Dartmouth College

1989: AUSTRIAN ECONOMICS
Week-long seminar at Stanford University

CONSULTING:

Extensive consulting with a large money-management firm in Denver Colorado on a multi-million dollar acquisition. Prepared reports for the President, gave an extended presentation to the Board of Directors and to Corporate Officers. The proposed acquisition was completed successfully.

FACULTY DEVELOPMENT ACTIVITIES

1991: Received faculty development grant to use CD-ROM in classroom

1990: Faculty Retreat at Mt. Olivet on Diversity

1986-1991: Regular attendance at Departmental Planning Meetings

1986-1991: Regular attendance at Departmental Meetings

1986-1991: Review and training of adjunct faculty in MIS

F. Community Contributions and Activities

Support and advice to CrossRoads Adoption Agency
Served on the Finance Committee for Linden Hills Food Cooperative
Parental facilitator for Youth of Unity
Donor for Handi-Ham Program at Courage Center
Host parent for students from Switzerland and Costa Rica;
Host family to faculty from Indonesia and China.
Foster home for over one dozen teenagers
Adoptive parent of four children

G. Academic Advisees

1985-86	20
1986-87	40
1987-88	50
1988-89	60
1989-90	70
1989-90	95

**Annual "Report to the Dean"
1990-1991**

Rank: Associate Professor

Tenured: No

Leaves taken: None

I. Courses taught September 1990 to June 1991: (9 courses):

	DAY(5)	WEC (4)
	-----	-----
Fall	MIS 175, MIS 370	MIS 175 (2)
Winter	Statistics Manual	MIS 175
Spring	MIS 375, MIS 175	MIS 370

II. Committee and other nonteaching assignments this year:

- Educational Resources Committee
- Academic Computer User Committee
- Chair of MIS Faculty Search Committee (Search In Progress)
- Skills Subcommittee of the General Education Committee

III. Research Activities and Course Developments

- Analysis of peer-to-peer Local Area Networks (LANs)
- Analysis of Windows 3.0; Learned Word for Windows and Lotus 3.x
- Installation of 6 computers in the Department of Business and MIS
- Analysis of CD-ROM (for faculty development grant)
- Proposed course on Critical Thinking with emphasis on Quantitative Reasoning
- Proposed course on the Morality of Capitalism

IV. Publications:

- Manual: Processing Survey Data (25,000 words)
- Handout: Microsoft Word for Windows

V. Lectures, Professional Meetings:

- IBM Seminars (40 hours): CASE Tools and Enterprise Modeling

VI. Campus Faculty Development Activities:

- Faculty Retreat: Mount Olivet

VII. Number of Advisees: 90-95

VIII. Honors and Awards

- Received Faculty Development Grant to use CD-ROM in classroom
- Featured as outstanding New College Faculty at St. Thomas

IX. Community Contributions

- Counseled with students on personal problems

**Annual "Report to the Dean"
1989-1990**

Rank: Assistant Professor

Tenured: No

Leaves taken: None

I. Courses taught September 1989 to June 1990: (9 courses):

	DAY(5)	WEC (4)
Fall	MIS 175, MIS 370	MIS 175(2)
Winter	ECO 319	MIS 175
Spring	MIS 375, MIS 175	MIS 370

II. Committee and other nonteaching assignments this year:

Educational Resources Committee

Academic Computer User Committee

Chair of MIS Faculty Search Committee (3rd year that search is unsuccessful)

III. Research Activities:

Extensive consulting on major acquisition with a large money management firm

IV. Publications:

Manual: Excelerator Summary

Handout: Microsoft Works: Summary of Word Processing Commands

V. Lectures, Professional Meetings:

Week-long Seminar on Austrian Economics at Stanford University

VI. Campus Faculty Development Activities:

Implemented regular review of all adjunct and part-time faculty teaching MIS

Reviewed adjunct MIS faculty and provided feedback

VII. Number of Advisees: 70-75

VIII. Honors and Awards

Promoted to Associate Professor (effective Fall, 1990)

IX. Community Contributions

Assisted Math department in transportation for Summer Computer Camp

Assistance to Youth of Unity as a Parental Sponsor

**Annual "Report to the Dean"
1988-1989.**

Rank: Assistant Professor

Tenured: No

Leaves taken: None

I. Courses taught September 1988 to June 1989: (10 courses):

	DAY(5)	WEC (5)
Fall	MIS 175 (2), MIS 370	MIS 175
Winter	*** One in four ***	MIS 175 (2)
Spring	MIS 375, MIS 175	MIS 370 (2)

II. Committee and other nonteaching assignments this year:

Chair of Educational Resources Committee

Academic Computer User Committee

Chair of MIS Faculty Search Committee (2nd year that search is unsuccessful)

III. Research Activities (including course development)

Recommended that MIS be elevated from a concentration to a Major

Implemented Excelerator CAD in MIS 375 in day program

IV. Publications and coursework

Univ. Minn. INS 8990: Economics of Legal Reasoning

Univ. Minn. MGMT 8403 Strategic Management Research

V. Lectures, Professional Meetings:

Week-long Seminar by Cato Foundation at Dartmouth College

VI. Campus Faculty Development Activities:

Attended brown-bag luncheon by Bruce Richenbach on "Nature of God"

VII. Number of Advisees: 60-65

VIII. Honors and Awards

IX. Community Contributions

Provided housing for a young adult needing shelter

**Annual "Report to the Dean"
1987-1988**

Rank: Assistant Professor

Tenured: No

Leaves taken: None

I. Courses taught September 1987 to June 1988: (10 courses):

	DAY(4)	WEC (6)
Fall	MIS 475	MIS 175, MIS 375
Winter	ECO 319	MIS 175, MIS 279
Spring	MIS 375, ECO 313	MIS 370, ECO 313

II. Committee and other nonteaching assignments this year:

Hired Tom Busico as Adjunct Faculty for WEC.

Chair of Educational Resources Committee

Academic Computer User Committee

Chair of MIS Faculty Search Committee (First year search unsuccessful)

III. Research Activities and course development:

Acquired 6 copies of EXCELERATOR under an academic grant

ECO 313: Utilized modern text by David Friedman (with Tom Morgan)

Used MATHCAD for computer simulation project

IV. Publications:

Graduate Paper: Rawl's Theory of Justice

Updated Augsburg Computer Handbook (Section II)

V. Lectures, Professional Meetings:

Week-long Seminar on Foundations of Philosophy: Univ. of Calif. (San Diego)

VI. Campus Faculty Development Activities:

Analysis and recommendation to Dean LaHurd on Registrar problems

Fall Planning Meeting: Department of Business and Economics

Several Brown Bag Luncheons

VII. Number of Advisees: 50: 40 in WEC and 10 in Day Program

VIII. Honors and Awards

Awarded "Distinguished Faculty Teaching Award" by Senior Class

IX. Community Contributions/Activities:

Time commitment to Crossroads Adoption Agency

Parental dponsor for Youth of Unity

Provided a foster home for a high-school teenager

**Annual "Report to the Dean"
1986-1987**

Rank: Assistant Professor

Tenured: No

Leaves taken: None

I. Courses taught September 1986 to June 1987: (10 courses):

	DAY(4) -----	WEC (6) -----
Fall	MIS 175, MIS 370	MIS 175, BUS 375
Winter	ECO 339	MIS 175, MIS 475
Spring	MIS 375	MIS 370, MIS 476

II. Committee and other nonteaching assignments this year:

Educational Resources Committee (1st year)

Academic Computer User Committee (2nd year)

III. Research Activities:

New Course BUS 370: 30 day students and 30 WEC students

New Course ECO 339: Economics of Risk (taught interim)

New Course BUS 476: Systems Analysis Projects

Submitted four course proposals for the graduate program

IV. Publications:

Augsburg Personal Computer Handbook (100 pages)

V. Lectures, Professional Meetings:

Attended national conference on Rights and Justice at UCLA

Attended Minnesota Philosophical Society Conference at UMD

Completed six post-doctorate graduate-level courses at University of Minnesota

VI. Campus Faculty Development Activities:

Attended Fall Planning Meeting of Department of Business and Economics

Lecture: "Introduction to MIS" to parents/prospective students "Discovery Day"

VII. Number of Advisees:

40: 30 in WEC and 10 in day school

VIII. Honors and Awards

IX. Community Contributions

Parental sponsor for Youth of Unity

Systems Analysis (pro bono) for CrossRoads Adoption Agency

**Annual "Report to the Dean"
1985-1986**

Rank: Assistant Professor

Tenured: No

Leaves taken: None

I. Courses taught September 1985 to June 1986: (10 courses):

	DAY(5)	WEC (5)
Fall	BUS 175, BUS 375	BUS 175, BUS 375
Winter	BUS 370	BUS 175, BUS 475
Spring	BUS 175, BUS 475	BUS 476

II. Committee and other nonteaching assignments this year:

Academic Computer User Committee (First year)

III. Research Activities:

Upgraded MIS 175 to include spreadsheets (Lotus) and Word Processing (Works)

Upgraded lab to use IBM PCs

IV. Publications:

Handout: Appleworks

V. Lectures, Professional Meetings:

VI. Campus Faculty Development Activities:

VII. Number of Advisees:

20: 15 in WEC and 5 in day program

VIII. Honors and Awards

IX. Community Contributions

Parental sponsor for Youth of Unity

6 SUMMARY OF QUALIFICATIONS

The following summarizes materials presented in support of my application for tenure. These categories follow the headings stated in the Faculty Handbook (3.1.5c on page 3.1.3) as "the categories of criteria for granting of tenure."

- 1. Educational Preparation**
- 2. Teaching Competence**
- 3. Productive Scholarship and Creative Activities**
- 4. Employment History** (as added for next year by Faculty Senate Proposal)
- 5. Other Contributions of Significance to the College**
- 6. Commitment to the Goals of the College**
- 7. Personal Qualities**

plus

- 8. Contributions to the Business Department**
- 9. My Perception of my Role as a Faculty Member at Augsburg**

6.1 EDUCATIONAL PREPARATION

1958-1962 Iowa State University. Ames, Iowa
Bachelor of Science degree June, 1962
Major: Physics Minor: Economics

1963-1965 University of Illinois. Urbana, Illinois
Master of Science degree June, 1964
Major: Physics Minor: Mathematics

1965-1968 Rice University. Houston, Texas
Doctor of Philosophy Thesis Advisor: Dr. Alex Dessler
Department: Space Sciences
Thesis: The Configuration of the Geomagnetic Field

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1968-1970 University of Iowa. Iowa City, Iowa Graduate level courses
Econ 294 Price Theory
Econ 280 Theory of Taxation
Econ 270 Money & Banking
Econ 261 Economic History of America
Econ 183 Statistics II

1979-1980 College of St Thomas. St. Paul, Mn.
Audited the following undergraduate courses:
Phil 111T Logical Analysis Dr. Connell
Phil 214T Ethics Father Stromberg
Phil 305T Biomedical Ethics Dr. Berquist
Phil 310T Action Theory Dr. Boyle
Phil 430T Metaphysics Dr. Sullivan

1981 University of Minnesota
Enrolled as an 'Adult Special' student
Phil 5415 Philosophy of Law Dr. Satorius
Phil 5321 Theories of Justice Dr. Mason

1986-1987 University of Minnesota
Admitted to Graduate School to work on post-doctorate education
INS 8100 Risk Management Dr. Whitman
INS 8220 Property/Casualty Insurance Dr. Whitman
INS 8200 Life & Health Insurance Dr. Cho
Eco 5334 Economic Security Dr. Williams
Eco 5831 Cost Benefit Economics Dr. Coen
HIS 5334 U.S. Legal History Dr. Murphy
Bgs 8019 Topics in Bus/Govt/Soc Dr. Marcus
Bgs 8201 Foundations Bus/Govt/Soc Dr. Maitland

6.2 TEACHING COMPETENCE

I have four sources of evidence on my teaching competence:

1. Student evaluations (done in class)
2. Peer reviews
3. Selections of Distinguished faculty by Seniors
4. Comments by students who are now Augsburg Alumni

1. Student evaluations are summarized in a previous section. In general they are very good.

2. The results of peer reviews are contained in the letters of reference submitted by the three tenured faculty in my department.

3. I was selected as a "Distinguished Faculty" by Augsburg Seniors in 1988.

4. I have received numerous comments from my advisees who have graduated, gone to work and can now appraise the value of their education in a new light. They can better appreciate the emphasis on principles, on the development of one's mind, on the importance of communication. I have asked Emily Blados, a former advisee, to prepare a letter on my behalf.

6.3 SCHOLARLY PUBLICATIONS

SCIENTIFIC

"A Source for Field-Aligned Currents at Auroral Latitudes"
by Schield, Freeman & Dessler. *Journal of Geophysical Research* 74, p 247. 1969.

"Drift of Non-Interacting Charged Particles in a Simple Geomagnetic Field."
University of Iowa Research. 1969.

"Electron Observation between the Inner Edge of the Plasma Sheet and the
Plasmasphere" by Schield and Frank. *Journal of Geophysical Research*, 1970.

"Satellite Particle Detectors" presented at the European Space Institute.
Interlachen, Switzerland. 1969.

FINANCIAL

"Proposal for Pricing Excess Reinsurance Internationally under Inflationary
Uncertainty." Submitted to the Folksam in Stockholm, Sweden. 1984.

ETHICS

"Human Rights and Responsibilities" Equitarian Associates
Conference Proceedings, Fall, 1970.

"Mathematics of Justice" Equitarian Associates
Conference Proceedings: Spring, 1971.

"Rawl's Veil of Ignorance: Problems with Equality Among Generations"
Univ of Minn., Dept of Philosophy. 1980.

6.4 EMPLOYMENT HISTORY

1970-1972 President of Schield Stock Service, Inc.

Provided specialized investor accounting service to investors with substantial portfolios. Marketed via advertising in the Wall Street Journal.

1972-1975 President of Bantam Data Services, Inc.

Marketed minicomputer systems to small businesses through independent agents. Raised venture capital, designed systems, managed programmers, wrote sales literature and instruction manuals, installed systems, trained personnel and collected receivables.

1976-1978 Senior Systems Consultant with Fox & Co. CPA in Minneapolis.

(Now Grant & Co., CPA) Consulted on computer systems problems, financial problems and assisted auditors in evaluating the adequacy of computer related controls.

1978-1984 Senior Research Analyst with St. Paul Insurance Company in St. Paul

Performed actuarial analysis on \$100 million of ceded reserves. Assisted Underwriting in corporate planning and in negotiating reinsurance contracts.

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PROFESSIONAL EXAMINATIONS

1976 Actuarial Exams: Took and passed Exam #1: Mathematical Foundations

1978 CMA Certificate in Management Accounting. Took and passed all five parts.

Part 1. Economics & Business Finance

Part 2. Organization & Behavior

Part 3. Public Reporting Standards, Auditing and Taxes

Part 4. Periodic Reporting Internal & External Purposes

Part 5. Decision Analysis including Modeling and MIS

1978 CPA Exams: Took all four parts. Passed Law and Audit portions and received an 'acceptable fail' on Theory and Practice.

6.5 OTHER CONTRIBUTIONS

1. Recommended that various mathematics prerequisites be added to selected courses in the Business & Economics major. This recommendation was implemented in 1987.
2. Generated a new course (for the revised MIS Program) entitled "**BUS 370: Advanced Computing for Business and Economics**" This course has been very well received with an average enrollment of over 20 students per section in both day school and WEC.
3. Generated a new course for Interim, 1987 entitled "**ECO 339: Economics of Risk**". Description: "Examine the economics of hazards involving uncertainty and risk. Analyze the role of the legal system in internalizing foreseeable, but unintended, consequences of intended actions."
4. Wrote and published the Augsburg Personal Computer Handbook Part I and Part II. March, 1987. Part I of this 100 page booklet is used in the introductory classes; Part II is used in the advanced classes. This booklet was used to train tutors in the Computer Lab.
5. Promoted the idea of MIS as a major as opposed to a concentration. Proposal approved by the Department and by Academic Affairs Committee in Fall, 1989.
6. Investigated the feasibility of separating Economics into a separate department from Business and MIS. Documented and distributed my findings. Pressed for a discussion of this topic. Recommended separation. Separation was approved.
7. Proposing a computer component in MIS 279 (Statistics).
8. Provided academic services to the following groups:
 - Augsburg departments** (in computer-related projects)

Cooperative Education	Consulting on a data base system
Maintenance	Consulting on a work-order system
Graduate Program	Consulting on computer hardware
Registrar's office	Consulting on student transcripts
Dean's office	Consulting on a faculty data base
Business Office	Consulting on a student data base
 - Augsburg students** (in computer-related projects)
 - Market Research: questionnaire design software selection and data analysis
 - Management: Assistance in project management software
 - Finance: Acquisition of stock market statistics from Compuserve
 - Accounting: Use of the DAC-Easy accounting system
 - Economics: Acquisition of the Foresal macroeconomics package
 - Admissions** (Day Program and Weekend College)
 - Primary contact for prospective students interested in the MIS program
 - Preparation of literature on the MIS program at Augsburg.

6.6 COMMITMENT TO GOALS OF COLLEGE

One way that I have demonstrated my commitment to the goals of the college is by submitting proposals for courses in the Augustburg Graduate Program

These proposals were submitted to the Graduate Program Committee in February 1986. Committee members were Tom Morgan, Earl Alton, Ray Anderson, Milda Hedblom, Eddie Hertzberg and Norma Noonan.

Although these courses were not accepted, the Dean and several members of the committee responded positively. I still believe that if the Graduate program is to find a unique identify it must consider courses such as these that relate business issues and ethical concepts such as the common good, responsibility and morality.

1. Entrepreneurship, Risk Taking and the Common Good

"Distinguish entrepreneurship from mere management. Review microeconomics, market theory, experimental economics and auction markets. Examine risk seeking/avoidance, contracts and law, freedom of information, business ethics and the common good."

2. Negligence, Legal Principles and Economic Consequences

"A study of what a reasonable and prudent man should and should not do. An examination of tort law principles involving intent, negligence and strict liability. An examination of related economic consequences including foregone activities, insurance, government regulation, lobbying and the underground economy."

3. The Morality of Capitalism

(Windfall Profits and Just Deserts)

"A wide-ranging examination of the morality of laissez-faire capitalism. Designed for leaders of organizations who determine, evaluate and/or defend the morality of policies, actions and consequences under a capitalist system."

4. Computer Tools for Executive Decision Making

"Use of the latest microcomputer tools for managing time, organizing and communicating ideas, making decisions, managing processes and projects and for preparing forecasts and contingency plans."