

LSC Use Only
Number: _____
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Number: 96-56
Submission Date: _____
Action-Date: App 4/15/97
Senate App 4/29/97

CURRICULUM PROPOSAL COVER SHEET
University-Wide Undergraduate Curriculum Committee

I. CONTACT

Contact Person Dr. Lon Ferguson Phone 3018
Department Safety Sciences

II. PROPOSAL TYPE (Check All Appropriate Lines)

 COURSE _____
Suggested 20 character title

 New Course* _____
Course Number and Full Title

 Course Revision _____
Course Number and Full Title

 Liberal Studies Approval + _____
for new or existing course Course Number and Full Title

 Course Deletion _____
Course Number and Full Title

 Number and/or Title Change _____
Old Number and/or Full Old Title
New Number and/or Full New Title

 Course or Catalog Description Change _____
Course Number and Full Title

 X PROGRAM: X Major Minor Track

 New Program* _____
Program Name

 X Program Revision* B.S. in Safety Sciences
Program Name

 Program Deletion* _____
Program Name

 Title Change _____
Old Program Name
New Program Name

III. Approvals (signatures and date)

Lon Ferguson 11/11/96 Department Curriculum Committee
Robert J. Soule 11 Nov 96 Department Chair
Mary A. Swanson 11/11/96 College Curriculum Committee
Charles J. Zoni 11/10/96 College Dean
Mark Stang 2/7/97 * Provost (where applicable)

+ Director of Liberal Studies (where applicable)

* Provost (where applicable)

* no new resources requested

INDIANA UNIVERSITY OF PENNSYLVANIA

SAFETY SCIENCES DEPARTMENT

Program Revision

Spring 1996

1. Program Revision from the Safety Sciences Department

A. Rationale for Program Changes

There are two major reasons for the proposed changes in the Safety Sciences B.S. Program:

1. In 1993, the responsibility for accrediting Safety Curricula was transferred from the American Society of Safety Engineers (ASSE) to the Accreditation Board for Engineering & Technology (ABET). ABET changed the accrediting criteria in several areas including requirements for courses in environmental safety and ergonomics. The current Safety Sciences Curriculum does not require a course in environmental safety and ergonomics is an option, not required.
2. A second reason was the desire for the curriculum content to better reflect the current safety & health practices in the field. Surveys of our alumni indicated the need to add a course in environmental safety, to increase the coverage in ergonomics, human behavioral aspects of accident prevention, and risk management and to increase generally hands-on activities in the classroom.

B. Resources

Current resources within the department are sufficient to support the proposed program changes. Overall faculty teaching load will be increased because of the increase in the number of credits in the SA Major from 36 to 41. To accomplish this without adding faculty, the department will reduce the number of course offerings in SA 111, 211, 301, 311 and 303 from three to two per year and SA 101 Introduction to Occupational Safety & Health will be reduced from six offerings to four offerings per year. The reduced offerings will increase class sizes to an average of 35 students per class, well within department resources.

The majority of the equipment necessary for the laboratory component of SA 211 Principles of Industrial Safety II already is in place in the safety laboratory classroom, 112 Johnson Hall. Current resources within the department are adequate to cover additional expenses required for the SA 211 and 412 Laboratories.

C. Description of Curriculum Change

1. Catalog Description

The department offers the Bachelor of Science degree in Safety Sciences with specialization in occupational safety and health. The program in Safety Sciences prepares the student for professional, administrative, managerial and supervisory positions in industry, manufacturing, insurance, transportation, utility, government, construction, trade service industries and others. There remains a need in Pennsylvania and the nation for university educated occupational safety and health professionals. The curriculum includes a major of 41 semester hours in Safety Sciences and an additional 15 semester hours in related professional courses. A variety of elective courses is available in both the major and professional fields that enables students to strengthen their primary interest areas.



Bachelor of Science-Safety Sciences

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **55-56 sh**

Mathematics: MA 123

Natural Sciences: CH 101 & 102

Social Sciences: PC 101, SO 151, non western culture required

Liberal Studies Electives: EC 122, MA 217, and CO/IM/BE 101, no course with SA prefix.

Major: **41 sh**

Required Courses:

| | | |
|------------|--|-------|
| SA 101 | Introduction to Occupational Safety & Health | 3 sh |
| SA 111 | Principles of Industrial Safety I | 3 sh. |
| SA 210 | Environmental Safety & Health Regulations | 3 sh. |
| SA 211 | Principles of Industrial Safety II | 4 sh. |
| SA 301 | Health Hazard Identification | 3 sh |
| SA 303 | Control of Health Hazards | 3 sh. |
| SA 311 | Industrial Fire Protection | 3 sh. |
| SA 345 | Systems Safety Analysis | 3 sh. |
| SA 347 | Ergonomics | 3 sh. |
| SA 402 | Health Hazard Evaluation | 3 sh. |
| SA 412 | Hazard Prevention Management | 4 sh. |
| SA 488/493 | Safety Internship | 6 sh. |

Other Requirements: **27 sh**

Additional Science and Mathematics:

| | | |
|--------|----------------------------|------|
| PY 111 | Physics I Lecture | 3 sh |
| PY 112 | Physics II Lecture | 3 sh |
| PY 121 | Physics I Lab | 1 sh |
| PY 122 | Physics II Lab | 1 sh |
| BI 155 | Human Physiology & Anatomy | 4 sh |

Professional Courses:

| | | |
|--------|--|------|
| AD 321 | Business & Interpersonal Communications | 3 sh |
| MG 311 | Human Behavior in Organizations | 3 sh |
| | Three Professional Courses Approved by Student's Advisor | 9 sh |

Free Electives: **3 sh**

Total Degree Requirements: **126-127 sh**

2. Summary of Changes

The proposed changes in the Safety Sciences Curriculum are summarized in Table 1 "Program Comparison". This table illustrates program changes for the entire curriculum based on the Liberal Studies Requirements, Professional Courses, Free Electives, Prerequisite Courses, and SA Major Courses.

TABLE 1. PROGRAM COMPARISON

| Current Safety Sciences Program | Revised Safety Sciences Program |
|---|--|
| LIBERAL STUDIES | LIBERAL STUDIES |
| English Composition: EN 101 & 202 - 7 sh. | English Composition: EN 101 & 202 - 7 sh. |
| Mathematics: MA 121 - 4 sh. | Mathematics: MA 123 - 4 sh. |
| Humanities: HI 195, EN/FL 121 & Philosophy/Religious Study Elective - 9 sh. | Humanities: HI 195, EN/FL 121 & Philosophy/Religious Study Elective - 9 sh. |
| Fine Arts Elective - 3 sh. | Fine Arts Elective - 3 sh. |
| Natural Science: CH101-102 - 8 sh. | Natural Science: CH101-102 - 8 sh. |
| Social Science: PC 101, SO 151 & non western culture recommended - 9 sh. | Social Science: PC 101, SO 151 & non western culture required - 9 sh. |
| Health & Wellness: HP 143 or FN 143 - 3 sh. or MS101 - 102 Military Science - 4 sh. | Health & Wellness: HP 143 or FN 143 - 3 sh. or MS 101-102 Military Science - 4 sh. |
| Electives: EC 122, MA 122, MA 217, no course with SA prefix. - 10 sh. | Electives: EC 122, MA 217, CO/IM/BE 101, no course with SA prefix. - 9 sh. |
| Synthesis Course - 3 sh. | Synthesis Course - 3 sh. |
| Total Liberal Studies: 56-57 | Total Liberal Studies: 55-56 |
| PROFESSIONAL COURSES | PROFESSIONAL COURSES |
| MG 330 Production & Operations Management - 3 sh. | MG 311 Human Behavior in Organizations - 3 sh. replaces MG 330. |
| HP 242 Emergency Health Care - 1 sh. | Course no longer offered. |
| EN 322 or EN 220 - 3 sh. | AD 321 Business & Interpersonal Communications. - 3sh. |
| One course from list: MG 311, PC 371, PC 420 and SO 340. - 3 sh. | No Behavior Elective because MG 311 is now required. |
| Three professional courses approved by advisor -9 sh. | Three professional courses approved by advisor - 9 sh. |
| Computer Science Elect: CO or IM/BE 101-3sh | Computer Science Elective is Liberal Studies Elective |
| Total Professional Courses: 22 sh. | Total Professional Courses: 15 sh. |
| FREE ELECTIVES | FREE ELECTIVES |
| 0-3 sh. (The students will have 3 credits if the Non Western Culture elective is a Social Science Elective) | 3 sh. |
| SA PREREQUISITE COURSES | SA PREREQUISITE COURSES |
| PY 111 & 112 - 4 sh.. | PY 111 & 112 - 4 sh. |
| PY 121 & 122 - 4 sh. | PY 121 & 122 - 4 sh. |
| BI 155 - 4 sh. | BI 155 - 4 sh. |
| Total Prerequisite Courses: 12 sh. | Total Prerequisite Courses: 12 sh. |
| SA REQUIRED COURSES | SA REQUIRED COURSES |
| SA 101 Introduction to Occupational Safety & Health - 3 sh. | SA 101 Introduction to Occupational Safety & Health - 3 sh. |
| SA 111 Principles of Industrial Safety I - 3 sh. | SA 111 Principles of Industrial Safety I - 3 sh. |
| | SA 210 Environmental Safety & Health Regulations - 3sh. |
| SA 211 Principles of Industrial Safety II - 3 sh. | SA 211 Principles of Industrial Safety II - 4 sh |
| SA 301 Health Hazard Identification - 3 sh | SA 301 Health Hazard Identification - 3 sh |
| SA 303 Control of Health Hazards - 3 sh. | SA 303 Control of Health Hazards - 3 sh. |
| SA 311 Industrial Fire Protection - 3 sh. | SA 311 Industrial Fire Protection - 3 sh. |
| SA 345 Systems or SA 347 Ergonomics - 3 sh. | SA 345 Systems - 3 sh. |
| SA Elective - 3 sh. | SA 347 Ergonomics - 3 sh. |
| SA 402 Health Hazard Evaluation - 3 sh. | SA 402 Health Hazard Evaluation - 3 sh. |

| | |
|---|---|
| SA 412 Evaluation of Safety Programs - 3 sh. | SA 412 Hazard Prevention Management - 4 sh. |
| SA 493 Safety Internship - 6 sh. | SA 493 Safety Internship - 6 sh. or SA 488 Safety Internship - 12 sh. If SA 488 is used, 6 credits are counted toward either the Free Elective and/or Professional Electives. |
| Credits in Major: 36 sh. | Credits in Major: 41 sh. |
| Total Degree Requirements: 126/127 sh. | Total Degree Requirements: 126/127 sh. |

D. Course Revisions to Support Program Changes

1. **Current:** SA 101 Introduction to Occupational Safety & Health 3c-01-3sh
Prerequisites: None

Covers theory and history of industrial hazard control, effects of hazards and failures on organizational control and productivity, safety and health legislation, accident causation, organization and administration of safety & health programs, aspects of recognizing, evaluating, and understanding control of safety and health hazards, acquiring hazard data, hazard analytical tools, communication techniques in safety and health management, and the role of interfacing management systems in hazard control.

- Proposed:** SA 101 Introduction to Occupational Safety and Health 3c-01-3sh
Prerequisites: None

Covers the theory and history of occupational hazard control, effects of hazards and failures on organizational control and productivity, safety and health legislation, and accident causation. The course also previews aspects of recognizing, evaluating, and understanding control of safety and health hazards, acquiring hazard data and the use of hazard analytical tools. Communication techniques in safety and health management are stressed along with the development of safety & health programs.

2. **Current:** SA 111 Principles of Industrial Safety I 3c-01-3sh
Prerequisites: SA 101 or SA 102

Stresses understanding the complexity of industrial hazard control problem by thoroughly examining elements of safety and health enumerated in OSHA-promulgated standards. Emphasis given to plant layout and design, materials handling, machine guarding, walking and working surfaces, hazardous materials and combustible liquids, boilers, and unfired pressure vessels.

- Proposed:** SA 111 Principles of Industrial Safety I 3c-01-3sh
Prerequisites: SA 101

Stresses an understanding of the complexity of the industrial hazard control problem by thoroughly examining elements of safety and health enumerated in the OSHA promulgated standards and various consensus standards. Emphasis directed at plant layout and design, powered industrial vehicles, boilers and unfired pressure vessels, machine guarding, robotics safety and an introduction to industrial processes.

- 3. Current: SA 211 Principles of Industrial Safety II** 3c-01-3sh
Prerequisites: SA 101 or SA 102

Stresses understanding the complexity of the industrial hazard control problem by thoroughly examining elements of safety and health enumerated in the OSHA-promulgated standards. Emphasis on welding and cutting operations, electrical safety, chemical safety, personal protective equipment, industrial sanitation, and construction safety.

- Proposed: SA 211 Principles of Industrial Safety II** 3c-3l-4sh
Prerequisites: SA 111

Stresses an understanding of the complexity of the industrial hazard control problem by thoroughly examining elements of safety and health enumerated in the OSHA promulgated standards and various consensus standards. Emphasis is placed on personal protective equipment, welding and cutting, walking and working surfaces, materials handling and storage, electrical safe work practices, and construction safety. Application of hazard control strategies is accomplished in laboratory sessions.

- 4. Current: SA 345 Systems Safety Analysis** 2c-31-3sh
Prerequisites: SA 111, SA 211, MA 217

Focuses on the evaluation of system designs using detailed system analysis techniques. Topics covered include system definition, economics of systems safety, systems safety methodology, ergonomic approaches, mathematics of system analysis, including statistical methods, Boolean algebra, and reliability. Preliminary hazard analysis, task analysis, failure mode and effect analysis, fault tree analysis, and exercises in the application of fault tree analysis to hardware and man/machine systems. Practical analysis work is accomplished in laboratory sessions.

- Proposed: SA 345 Systems Safety Analysis** 2c-3l-3sh
Prerequisites: SA 211, MA 217

Focuses on the evaluation of system designs using detailed system analysis techniques. Topics covered include system definition, economics of systems safety, systems safety methodology, mathematics of systems analysis including statistical methods, Boolean Algebra, and reliability. Skill gained include the ability to perform preliminary hazard analysis, failure mode and effect analysis, fault tree analysis, and exercises in the application of fault tree analysis to hardware and man/machine systems. Practical analysis work is accomplished in laboratory sessions.

- 5. Current: SA 347 Ergonomics** 2c-31-3sh
Prerequisites: SA 301, BI 155

An exploration of the principles which control human performance and its effect upon the safety and reliability of systems. Engineering anthropometry, biomechanics of motion and work posture, work physiology, and performance measurement are covered in the context of their application in workplace design. Students will be instructed in methodologies for analysis tasks and human performance requirements. Important human limitations are studied in laboratory sessions.

Proposed: SA 347 Ergonomics
Prerequisites: SA 301, BI 155

2c-31-3sh

An exploration of the principles which control human performance and its effect upon the safety and reliability of systems. Engineering anthropometry, human perception, biomechanics of motion and work posture, work physiology and human performance measurement are covered in the context of their application in workplace design. Students will be instructed in methodologies for analysis of tasks and human performance requirements. Important human limitations and ergonomic hazard evaluations, such as lifting and repetitive motion tasks, are studied in laboratory sessions.

- 6. Current: SA 412 Evaluation of Safety Program Effectiveness**
Prerequisites: MA 217, junior standing

3c-01-3sh

Teaches reasons and importance of evaluating the effect of safety and health innovations on organization performance, devising measuring systems capable of extracting accurate, meaningful data, methods of collecting, codifying, and processing accident-injury information, and utilization of data retrieval systems.

Proposed: SA 412 Hazard Prevention Management
Prerequisites: MA 217, MG 311, Jr. Standing

3c-3l-4sh

Teaches various safety management techniques to identify and prevent the occurrence of hazardous behavior and conditions. Devises methods capable of extracting accurate, meaningful data, methods of collecting, codifying and processing hazard and loss incident information, and utilizing data retrieval systems to be used in cost/benefit decision-making for hazard prevention, safety program and performance evaluation, and risk management.

E. New Course:

SA 210 Environmental Safety & Health Regulations
Prerequisites: CH 102, SA 101, or permission of instructor

3c-0l-3sh

This course offers the student a practical approach to the understanding of, and compliance with, the various environmental regulations that impact on business. A thorough discussion of the definitions, categories, and evaluation of hazardous materials is included. Environmental laws covered include the Clean Water Act, the Clean Air Act, the Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation and Liability Act, the Occupational Safety and Health Act, and other related laws.

Part III IMPLEMENTATION

1. How will the proposed revision affect students already in the existing program?

The major changes in the revised program will require students to take both SA 345 Systems Safety and SA 347 Ergonomics rather than one or the other, and adding a course in Environmental Safety. When the revised program is approved we will not require students already enrolled in the program to comply with the above changes but will offer the courses as electives. All new students entering the program after the revised program has been approved will be required to take SA 347 Ergonomics, SA 345 Systems Safety and SA 210 Environmental Safety.

The other course changes are minor revisions in course content except for the courses of SA 211 Principles of Industrial Safety II and SA 412 Hazard Prevention Management. The major changes with these courses involve adding a laboratory component. Students presently in the program will be required to take the revised courses so that we will not have to offer both the old course and the revised course. The two extra credits will count as either a Safety Elective or Professional Elective for the current students in the program.

Changes in courses outside the department involve MG 311 replacing MG 330, AD 321 replacing EN 322 and MA 123 replacing MA 121 & 122. These course changes were discussed with the departments involved and letters of support are attached.

With the additional courses and laboratories it will not be feasible for the department to offer as many sections of the required SA courses every year. However, although there may be less flexibility in scheduling, sections of all required courses will be offered each semester.

2. How will the proposed revision affect faculty teaching loads?

Of course, overall faculty teaching load will be increased because of the increase in the number of credits in the SA Major from 36 to 41. Currently the Safety Sciences Department has a faculty complement of 12, three of whom are temporary full time positions. These three temporary positions are funded from three external sources, two of which have been providing funding to the program for over ten years.

With funding from two of these external resources, the department can continue to utilize the temporary positions and will have adequate staffing to accommodate the additional faculty loading required for the proposed changes. To accomplish this without adding faculty, the department will reduce the number of course offerings in SA 111, 211, 301, 311 and 303 from three to two per year and SA 101 Introduction to Occupational Safety & Health will be reduced from six offerings to four offerings per year, see Table 3 on the next page. The reduced offerings will increase class sizes to an average of 35 students per class, well within department resources.

3. Are other resources adequate?

The majority of the equipment necessary for the laboratory component of SA 211 Principles of Industrial Safety has been in place in the safety laboratory classroom, 112 Johnson Hall. Current resources available within the department is adequate to cover additional expenses required for the SA 211 and 412 Laboratories.

Table 3. Faculty Teaching Loads

| Course | Current Curriculum | | | | | New Curriculum | | | | | |
|--|--------------------|------|----------|------|------------|----------------|------|----------|------|------------|-------|
| | No. Sec. | Fac. | No. Labs | Fac. | Total Fac. | No. Sect. | Fac. | No. Labs | Fac. | Total Fac. | |
| SA 101 | 6 | 1.50 | | | 1.50 | 4 | 1.00 | | | 1.00 | |
| SA 111 | 3 | 0.75 | | | 0.75 | 2 | 0.50 | | | 0.50 | |
| SA 210 | - | 0.00 | | | 0.00 | 2 | 0.50 | | | 0.50 | |
| SA 211 | 3 | 0.75 | | | 0.75 | 2 | 0.50 | 4 | 0.67 | 1.17 | |
| SA 301 | 3 | 0.75 | | | 0.75 | 2 | 0.50 | | | 0.50 | |
| SA 303 | 3 | 0.75 | | | 0.75 | 2 | 0.50 | | | 0.50 | |
| SA 311 | 3 | 0.75 | | | 0.75 | 2 | 0.50 | | | 0.50 | |
| SA 345 | 1 | 0.17 | 3 | 0.50 | 0.67 | 2 | 0.33 | 4 | 0.67 | 1.00 | |
| SA 347 | 1 | 0.17 | 3 | 0.50 | 0.67 | 2 | 0.33 | 4 | 0.67 | 1.00 | |
| SA 402 | 2 | 0.33 | 8 | 1.33 | 1.67 | 2 | 0.33 | 8 | 1.33 | 1.67 | |
| SA 412 | 3 | 0.75 | | | 0.75 | 2 | 0.50 | 4 | 0.67 | 1.17 | |
| SA ____ | 6 | 1.50 | | | 1.50 | 4 | 1.00 | | | 1.00 | |
| SA 493 | | | | | 5.00 | | | | | 5.00 | |
| SA 60 ____ | 4 | 1.00 | | | 1.00 | 4 | 1.00 | | | 1.00 | |
| SA ____ | 4 | 1.00 | | | 1.00 | 4 | 1.00 | | | 1.00 | |
| SA 60 ____ | 2 | 0.50 | | | 0.50 | 2 | 0.50 | | | 0.50 | |
| SA ____ | 2 | 0.50 | | | 0.50 | 2 | 0.50 | | | 0.50 | |
| Dept. Chair | | | | | 1.50 | | | | | 1.50 | |
| PA/OSHA Dir. | | | | | 1.50 | | | | | 1.50 | |
| NEETC | | | | | 2.00 | | | | | 2.00 | |
| Total Required Faculty Complement per year | | | | | 23.51 | | | | | | 23.51 |

4. Do you expect an increase or decrease in the number of students as a result of these revisions?

We do not expect these changes to affect enrollment. Although we have increased the number of credits in the major the total number of credits for the program has remained unchanged at 126-127, see Curriculum Sequence on pages 5 & 6. Therefore, we do not expect enrollment to change in any significant way.

Part IV Course Proposals

1. Attached are the course revisions and new course proposals for the proposed changes in the B.S. in Safety Sciences.

| <u>Attachment</u> | <u>Course</u> |
|-------------------|---|
| A | SA 101 Introduction to Occupational Safety & Health |
| B | SA 111 Principles of Industrial Safety I |
| C | SA 210 Environmental Safety & Health Regulations |
| D | SA 211 Principles of Industrial Safety II |
| E | SA 345 Systems Safety |
| F | SA 347 Ergonomics |
| G | SA 412 Hazard Prevention Management |
| H | ABET Accreditation Criteria |

Part V Letters of Support

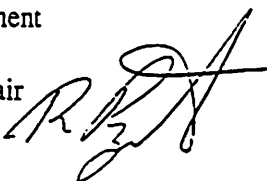
Letters of support from the Mathematics, Biology and Administrative Services Departments are attached.

BIOLOGY DEPT.

Indiana, Pennsylvania 15705

March 26, 1996

TO: Dr. Lon Ferguson
Safety Sciences Department

FROM: Dr. Robert Prezant, Chair
Department of Biology 

RE: SA 210, New Safety Sciences Course Proposal
Environmental Safety and Health Regulations

Thanks for the opportunity to review this new course, which will be offered as part of your revised curriculum in Safety Sciences. The new requirement by ABET appears appropriate and this proposed course seems to fit the ABET criteria.

I shared the proposal with Dr. Tom Simmons, Director of our Environmental Health Program. His comments are attached. With attention to his concerns, I support the creation of this course for Safety Science majors and find no major conflict with any course offered within the Department of Biology. I presume that Environmental Health majors will also have access to this course as needed.

You may want to confirm your predicted undergraduate enrollment [section C6]. Based on Fall 1994 numbers for one section offered [section A3] (number of undergraduates = 25), is it real to expect up to 80 students in two sections (as per your prediction for average future enrollments)? Also your numbers don't add up in terms of number of sections to be offered and anticipated enrollment (i.e. "Typically, one section...will be offered each academic semester," "...anticipated that, on average, a total of 70-80 students will enroll...each year, resulting in sections of approximately 30 students").

As an aside, since you had 14 graduate students in this course the last time it was taught, I would encourage you to dual list it and offer it at the graduate level as well. Of course, in so doing, you would have to discuss how the graduate students in the course would be evaluated differently from the undergraduates. Nevertheless, I think this would be a valuable opportunity for graduate students and, based on the numbers from Fall 1994, well attended.

Again, thanks for letting me preview this course proposal. I support your proposed change to meet ABET requirements and wish you luck with your new curriculum.

la
Enc. Simmons comments

Date: 22 March 1996
To: Bob Prezant
From: Tom Simmons
Re: Safety Science Proposed Curriculum Revision

Overall the course proposal looks fine and very appropriate for the Safety Science curriculum and re-accreditation. It is a shame that our current resource situation doesn't allow us to offer a similar course which their Department could use.

In terms of the details in the text of the proposal, there are a couple passages which could be made more accurate. Although it is true that there is no other course in any other program at IUP which has the same content (as stated in section B2), there is overlap between BI 322 and this course, although the emphasis is different. The description of BI321 and BI322 presented in the proposal only includes a passage from the catalog description of BI321, and not BI 322. Also, although regulations are not mentioned in the catalog description for BI 322, they are covered in the course as presented in the syllabus of record on file in the Biology Office. It would be difficult to cover environmental health issues and not deal with regulations, just as it would be difficult to cover regulations and not discuss technologies... as in SA 210. The regulations covered in BI 322 are not, however, in the detail proposed for SA210, nor are they only focused on industrial concerns.

Lastly, the catalog description for HPA 420, Environmental Health, presented as a similar course offered at Penn State is very similar to BI 321 (Environmental Protection I) offered at IUP. This contradicts the statement in section B2, that BI 321 is not similar to the proposed SA 210. Dr. Soule may want to delete Penn State's course as an example, especially considering that HPA 420 has not been offered at Penn State for about 4 years and has been removed from their catalog. If requested, I have a number of catalogs from schools offering similar courses and could suggest some alternatives.

The course appears to be compatible with our offerings, and I recommend that the new course proposal be supported by the Biology Department after the above comments have been addressed.

To: Dr. Lon Ferguson
Curriculum Committee Chairperson
Safety Sciences Department

From: Gerald Buriok, Chairman *GMB*
Mathematics Department

Date: March 11, 1996

Subject: Safety Sciences Proposed Curriculum Revision

During the past few months, you have communicated to me proposed revisions in the Safety Sciences curriculum resulting from changes in requirements by your accrediting board, ABET. On January 11, 1996, Dr. Soule, Dr. Joseph, and Mr. Reed met with me and Dr. Burkett to discuss a proposed change in the mathematics requirement for Safety Science students, namely to eliminate the requirement for MA 121 Calculus I for Natural, Social Sciences, and Business and MA 122 Calculus II for Natural, Social Sciences, and Business, and to require instead MA 123 Calculus I for Physics and Chemistry.

At the meeting, Dr. Burkett and I discussed the content of MA 123 and explained that this is a more demanding course than the MA 121-122 sequence. Also, we indicated that the Mathematics Department was considering revising its calculus requirements for majors, and that there might eventually be mathematics majors taking MA 123. It is my understanding the faculty of the Safety Sciences Department had all of this information in hand when making the decision to change the calculus requirement for your majors.

The Mathematics Department supports the proposed revision from MA 121-122 to MA 123 for students majoring in Safety Sciences. In MA 123, they will have a more challenging course and will be exposed to applications of calculus in the sciences. MA 123 appears to be more in line with other requirements in the Safety Sciences program and seems appropriate for your students. We would, of course, prefer that your students also took MA 124 Calculus II for Physics and Chemistry so that they had a complete calculus sequence. But, since your faculty and your accrediting board believe the content of MA 123 is sufficient, we will defer to you judgement.

Please contact me if I can be of assistance as you attempt to move your revisions through the curriculum approval process.

#1

18-MAR-1996 22:02:27.73

NEWS:

From: GROVE::SDS "SHARON D. STEIGMANN"
To: GROVE::FERGUSON
CC:
Subj: RE: Letter of Support

Sorry, I haven't forgotten about your request. As I told Bob McClay when we spoke in person, our Dean has indicated we might lose the complement for a retirement taking place in June. This position has delivered some of the AD32 sections.

I have reminded our Dean several times that you're waiting for a letter; but he told me I'd have to put off a response to you until he and Pettit have discussed complement for the College for next year.

Our faculty, however, have stated that they are willing to accommodate (and welcome!) Safety Science majors. We have had many of them in the past. Therefore, even if we have to juggle complement for another offering, we would be glad to support your proposal. I will send you an email message stating the details.

MAIL>

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#2

18-MAR-1996 22:05:33.31

NEWMA

From: GROVE::SDS "SHARON D. STEIGMANN"
To: FERGUSON
CC: SDS
Subject: Letter of Support

The faculty of the Office Systems and Business Education Department have, in the past, serviced numerous Safety Science majors in AD321 Business and Interpersonal Communications.

We agree that the course is well suited to their needs and are committed to servicing them in the future.

(AIL>

sc-chr: ^] help: ^]? port:1 speed: 9600 parity:none echo:rem VT320



Date: December 6, 1996

Subject: Letter of Support for Proposed Safety Science Curriculum Revision

To: Dr. Hal Wingard, Dean
College of Health & Human Services

From: Dr. Robert C. Camp, Dean *RCC*
Eberly College of Business

Please accept this communication as support for your proposed safety science curriculum revision including the addition of AD 321 Business and Interpersonal Communications as a professional course requirement. The Department of Office Systems & Business Education faculty welcome these students and are committed to this instruction. As dean of the College, I will provide resources as necessary to meet corresponding enrollment demands. Your recognition of the value of our coursework is appreciated.


jam

cc: Dr. Mark Staszkiwicz, Provost & VP for Academic Affairs

DATE: March 5, 1996

SUBJECT: Safety Sciences Proposed Curriculum Revision

TO: Dr. John N. Orife
Management Department

FROM: Dr. Lon Ferguson, Chairperson, Curriculum Committee 
Safety Sciences Department

The Safety Sciences Department is presently working on a major revision in our undergraduate curriculum. The objectives of this revision are to bring our curriculum into line with the current educational needs of Safety Professionals and to satisfy our accreditation bodies, the American Society of Safety Engineers and the Accreditation Board for Engineering and Technology (ABET).

In 1994, ABET changed their criteria for safety programs by requiring coverage of human behavior as it relates to an organization and safety. Further evidence of the need for coverage of human behavior in our program was demonstrated by several recent surveys of safety professionals. These surveys identified the study of human behavior as critical for the academic preparation of safety professionals.

Based on the above factors, the Safety Science faculty agreed during a recent curriculum meeting to require our students to take MG311 Human Behavior in Organizations in place of MG330 Production and Operations Management. The course MG330 will be added to our list of professional elective courses. This change will not become effective until at the earliest the school year 1997-1998 with incoming freshmen. The change should be seen in your course enrollments probably two (2) years after that, as most of our students take this course in their Junior year. Our estimate is that about 70 Safety Sciences majors per year currently enroll in MG330. If you have questions about our proposed curriculum revision, please feel free to contact me at x3018.

xc: Dr. Robert Soule

March 25, 1996

To: Dr. Orife, Chair, Management Department

From: Dr. Lon Ferguson, Chair, SA Curriculum Committee *LJ*

RE: SA Curriculum Committee

During our phone conversation on March 21st, you requested some information on why the Safety Science Curriculum was planning on removing MG 330 from our curriculum and replacing it with MG 311. What follows is a brief description from our curriculum proposal on why we believe this change is warranted:

Over the past several years, there has been a tremendous push within the safety profession to address the human behavior aspects of an organization as they relate to accident prevention. A survey of our Safety Science students in 1992 identified a weakness in our current curriculum in the areas of management skills, interpersonal skills, and behavioral sciences. A similar study by Dr. Ferguson in 1994 identified behavioral aspects as a very important topic to include in a safety curriculum. In this same study, respondents suggested expanding the coverage of human behavior in current safety curricula.

Therefore, to better meet the needs of our students in their role as a safety & health professional it was believed that MG 311 Human Behavior in Organizations would be more beneficial than our existing requirement for MG 330 Production and Operations Management.

I have attached portions of the above studies which document the need for increased coverage of human behavior in our curriculum. I have also enclosed the ABET Accreditation Criteria for our curriculum which requires coverage of behavioral aspects as they relate to accident prevention. I hope this additional information helps to clarify our position concerning MG 311 and 330, but please feel free to contact me if you have any additional questions.

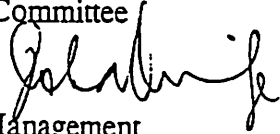
cc: Dr. Robert Soule



Date: April 15, 1996

Subject: SA CURRICULUM REVISION PROPOSALS

To: Lon Ferguson, Ed.D.
Chair, SA Curriculum Committee

From: John N. Orife, Ph.D. 
Chair, Department of Management

SA Curriculum Revision Proposals

I have had various consultations with my colleagues about the proposed revisions to the Safety Science curriculum. Our consultations were a follow-up to the meetings with Bob McClay and your memos dated March 05 and 25, 1996.

As we understand it, the SA faculty is in the process of revising the SA curriculum to meet the requirements of ABET, the SA accreditation organization. At the same time this proposed revision is supposed to be consistent with some research that was done. The SA curriculum revision proposal will in effect eliminate our MG 330 as a required course and substitute our MG 311 and make MG 330 an elective course. According to Bob McClay, 75% of the SA majors currently elect to take MG 311.

Let me state that our position on the program revision is not based on its perceived effect on "faculty contact-hours" in the Department of Management. Our position is based on the familiarity of some of our faculty with safety, (one of our colleagues wrote a doctoral dissertation on OSHA, when the law was about five years old) the ABET requirements and what is good for IUP.

After reading the ABET materials, and some excerpts of your doctoral dissertation, we feel very comfortable with our position as previously expressed to our colleagues from your department. I had indicated to Bob McClay that our recommendation is for the new curriculum to require both MG 330 and MG 311. And if we really take your dissertation results to heart, we can add MG 401 (Training and Development) as a third required course.

According to the ABET criteria for accreditation on page 154 item a 6, "The minimum requirement for engineering-related specialties must include an introduction to industrial or manufacturing processes." Our MG 330 course is the ideal course at IUP to meet this ABET requirement. We have also offered in the discussions with SA colleagues that we are willing

to design a new course to meet your special requirements if you feel that the current MG 330 should be modified to suit your specific needs. We would be pleased to help you meet ABET requirements that call for an introduction to industrial or manufacturing processes. We believe that our suggestions will facilitate the accreditation of your programs.

We support your desire to make MG 311 a required course but it should not be done by deleting MG 330 as a required course. We believe that the new program revision should require both MG 330 and MG 311 because ABET requires a course which is equivalent to MG 330 and recommends "a business or management course" in communications, humanities and social science area of the curriculum. Additionally, a safety specialist needs to be familiar with the context in which safety is to be practised in operations management and the people "manning" the operations. There's an old saying in safety management: Accident=unsafe act + unsafe conditions. A Safety Science major should be versed in the behavioral area (unsafe act) addressed by MG 311, MG 401 and the "plant layout/manufacturing area" (unsafe conditions) addressed by MG 330.

We are ready and willing to cooperate with our colleagues in Safety Science to give our students the best program ever.

Please do not hesitate to contact me if you wish to discuss this matter further.


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cc: Dr. Robert C. Camp, Dean, ECOB
Dr. Harold Wingard, Dean, Health & Human Services
Dr. Robert Soule, Chair, Safety Science

Date: April 22, 1996

Subject: SA Curriculum Proposals

To: Dr. John N. Orife
Department of Management

From: Dr. Lon Ferguson, Chairperson 
Curriculum Committee

Your memo dated April 15 was discussed in detail during the last Safety Sciences department meeting on April 16, 1996. We all appreciate your input and the substantial foundation on which it was based. After much consideration, however, we believe the best interest of our students will be served by continuing with our original plans to require MG311 and recommend MG330 as a professional elective for our students.

If you have any additional questions, please do not hesitate to call.

xc: Dr. Hal Wingard, Dean, College of Health and Human Services
Dr. Robert D. Soule, Chairperson, Department of Safety Sciences

Orife.2;Ferguson

#176

29-JAN-1997 17:27:05.25

MF

From: GROVE::BLCARTER "Brenda Carter"
To: HWINGARD
BLCARTER, DMCCLURE, IVY
j: Change: Safety Science Major Requirements

Hello, Hal! Sorry for the delay in responding to your request. I have confirmation from Dr. Don McClure, Chair of the English Department, that they do not object to the change from EN322: Technical Writing to AD321: Business Communications. In fact, it supports their new B.A. program by allowing them to offer fewer upper level courses for other majors.

I hope this statement is appropriate. If I may clarify, please contact me.

Thanks!

MAIL>

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Eberly College of Business
Indiana, Pennsylvania 15705

Date: December 6, 1996

Subject: Letter of Support for Proposed Safety Science Curriculum Revision

To: Dr. Hal Wingard, Dean
College of Health & Human Services

From: Dr. Robert C. Camp, Dean *RCC*
Eberly College of Business

Please accept this communication as support for your proposed safety science curriculum revision including the addition of AD 321 Business and Interpersonal Communications as a professional course requirement. The Department of Office Systems & Business Education faculty welcome these students and are committed to this instruction. As dean of the College, I will provide resources as necessary to meet corresponding enrollment demands. Your recognition of the value of our coursework is appreciated.

jam

cc: Dr. Mark Staszkiwicz, Provost & VP for Academic Affairs

Date: February 3, 1997

Subject: CURRICULUM SEQUENCE, SAFETY SCIENCES

To: Dr. Mark Staszkiwicz
Provost

From: Harold E. Wingard, Dean
College of Health and Human Services

Mark, I have received responses from Dr. Carter concerning EN322 and Dr. Camp concerning AD321 plus the computer courses. I have included all correspondence with a curriculum sequence sheet from the Safety Sciences Department.

Talking to both Brenda and Bob, in addition to their e-mail messages, I believe all concerns have been addressed. Even though the catalog does not show this, the safety majors have been taking CO101, IM101 or BE101, as the progression sheet indicates.

We also agree with Bob Camp that many students no longer need a basic computer course, but we are too reluctant to remove the requirement at this time (mostly because of the older returning students); however, the "test out" developed by Business will solve many concerns.

Thanks Mark, if you have further questions, please call.

HEW/en

2/6/97
er

MAIL> extract tt
From: GROVE::MJSTAT "Mark-J. Staszkiwicz" 5-FEB-1997 07:45:52.90
To: HAL WINGARD
CC: ROBERT CAMP, BRENDA CARTER, JAN PARKER, MJSTAT
Subject: Safety Science Curriculum Revision

I have finally signed off on the Safety Science Curriculum Revision and it is on its way back to you. Since I perceived that there would be some resource implications, I asked that you work with Bob Camp and Brenda Carter to make sure all is in order. Since both have provided letters of support, I must assume that these issues have been addressed. From our discussions, you know that my expectations with regard to resources are:

1. The College of Business can assume the added burden of teaching the Safety Science students without any additional resources. This would apply to the Interpersonal Communications course as well as to the intro to micro computing course
2. The Safety Science Dept. will require no additional resources to teach the revised program
3. The reduction in need for the English course will result in a decrease in the number of sections needed of EN 322 and EN 220. I will conduct an analysis of the number of Safety Science majors enrolled in these course over the past few years and will reduce the registration complement in English accordingly.
4. The changes in Mathematics courses will not require any additional resources.

I am sorry it took me so long to sign off on this proposal. But until I felt confident that you knew my concerns and that you had shared them with the others, I was uncomfortable signing.

Since John Eck's College is also involved in this revision and I had forgotten to CC him on this, I shall forward it to him separately. Thanks.