

FACULTY SENATE AGENDA

WEDNESDAY, April 2, 1997 3:00 P.M.
in GAMBRELL HALL AUDITORIUM ROOM NO. 153

PRESIDING: Professor Henry T. Price, Chair

1. Call to Order
2. Correction and Approval of Minutes of March 5, 1997
3. Report of Officers
4. Reports of Committees
 - a. Senate Steering Committee, Professor Sarah Wise, Secretary
 - b. Grade Change Committee, Professor Stephen McNeill, Chair
 - c. Committee on Curricula and Courses, Professor G. B. Lane, Chair
 - d. Faculty Advisory Committee, Professor Caroline Strobel, Chair
 - e. Faculty Welfare Committee, Professor Robert Wilcox, Chair
 - f. Committee on Admissions, Professor James Burns, Chair
 - g. Committee on Scholastic Standards and Petitions, Professor Thorne Compton, Chair
 - h. Other Committees
5. Report of Secretary
6. Unfinished Business
7. New Business
8. Good of the Order
9. Announcements

ATTACHMENTS:

1. Report: Grade Change Committee
2. Report: Curricula and Courses Committee

Sarah Wise
Secretary
WISE@GWM.SC.EDU

All materials **except** grade change report and part of curricula and courses report are or soon will be on the World Wide Web under **(NEW WEB ADDRESS):**

<http://www.sc.edu/faculty/index.html>

FACULTY SENATE MEETINGS - SPRING SEMESTER

April 30, 1997 - 12 o'clock in the Law School Auditorium

GENERAL FACULTY MEETING

April 28, 1997 - Law School Auditorium - 3:00pm

Committee Meeting Dates

Admissions: 3:30 p.m. on 3-28-97

University Athletics Advisory: 4:00pm on 4-16-97, & 5-14-97

Bookstore:

Curricula and Courses: 2:00pm on 4-4-97, & 5-9-97

Committee to Review the Operations & Management of the Faculty House:

Disability Affairs:

Faculty Advisory Committee:

Faculty Budget:

Faculty Welfare:

Grade Change: 3:30pm on 4-9-97

Instructional Development: None scheduled at present.

Subcommittees are meeting.

Libraries:

Scholastic Standards and Petitions Committee: 1:30 pm on 4-9-97

Attachments

Grade Change Report:

Seventy (70) grade changes reviewed by the Grade Change Committee on March 19, 1997 will be presented at the Faculty Senate Meeting on April 2, 1997. Because the format at this time cannot be distributed through the Web, printed copies are being sent to Senators, Deans, and Department Chairs only.

REPORT: COMMITTEE ON CURRICULA AND COURSES

(For consideration by the Faculty Senate at its meeting on April 2, 1997)

The Committee requests that any department which has a proposal being recommended by the Committee on Curricula and courses provide a spokesperson to attend the Faculty Senate meeting in which said proposal is to be recommended. Please contact G.B. Lane in advance if errors are noted.
Telephone: 777-5103 or E-mail GB.Lane@mozart.sc.edu

I. COLLEGE OF BUSINESS ADMINISTRATION

New courses

ACCT 222L ACCOUNTING LAB. (1) (Prereq: ACCT 222) Application of accounting to business transactions.

ACCT 407 FINANCIAL ACCOUNTING FOR NON- MAJORS. (3) (Prereq: ACCT 222, ACCT 222L) Financial accounting theory and practice as it relates to the content and analysis of financial statements. (Not allowed as an elective for accounting majors.

ACCT 504 LEGAL ISSUES FOR ACCOUNTANTS. (3) (Prereq: ACCT 324) The study of legal issues affecting the accounting profession.

Change in number, hours, and prerequisites

FROM: ACCT 431 FINANCIAL ACCOUNTING I. (4)

TO: ACCT 401 FINANCIAL ACCOUNTING I. (3) (Prereq: ACCT 222, ACCT 222L)

Change in number, prerequisites and description

FROM:: ACCT 432 COST/MANAGERIAL ACCOUNTING I. (3) (Prereq: ACCT 226) Cost accounting systems, planning, and control.

TO: ACCT 402 COST/MANAGERIAL ACCOUNTING I. (3) (Prereq: ACCT 222, Prereq or coreq: ACCT 222L) The use of accounting information for managerial decisions.

Change in number, hours, prerequisites and description

FROM: ACCT 433 FINANCIAL ACCOUNTING II. (4) Continuation of ACCT 431.

TO: ACCT 405 FINANCIAL ACCOUNTING II. (3) Additional accounting theory and practice as it relates to preparation of financial statements.

Change in number, prerequisites and description

FROM: ACCT 434 TAX I. (3) Federal income tax laws as they affect individuals. Primarily for professional accounting majors.

TO: ACCT 403 TAX I. (3) (Prereq: ACCT 401) Overview of individual, corporate, and partnership taxation. Emphasis is on sole proprietorships.

Change in title, number, hours , prerequisites and description

FROM: ACCT 435 ACCOUNTING SYSTEMS I. (4) Accounting systems for collecting and processing data necessary for effective control of the business organization.

TO: ACCT 404 ACCOUNTING INFORMATION SYSTEMS I. (3) (Prereq: ACCT 401) Accounting systems for business decision making and effective control of the business enterprise.

Change in number, hours, prerequisites and description

FROM: ACCT 438 AUDITING I. (4) Principles of independent, internal, and government auditing.

TO: ACCT 406 AUDITING I. (3) (Prereq: ACCT 404, Prereq or coreq: ACCT 405) Principles of auditing necessary to evaluate the integrity of accounting systems and financial reporting.

Change in number, prerequisites and description

FROM: ACCT 531 TAX II. (3) Survey of income tax laws as they affect corporations, partnerships, trusts, and estates.

TO: ACCT 503 TAX II. (3) (Prereq: ACCT 403) Advanced tax topics. Emphasis is on the taxation of partnerships and corporations.

FROM: ACCT 532 COST/MANAGERIAL ACCOUNTING II. (3) Advanced topics in cost accounting: systems planning and control.

TO: ACCT 502 COST/MANAGERIAL ACCOUNTING II. (3) (Prereq: ACCT 402) Advanced topics in the use of accounting information for managerial decisions.

Change in number and prerequisites

FROM: ACCT 533 GOVERNMENTAL AND NONPROFIT ACCOUNTING. (3)
TO: ACCT 505 GOVERNMENTAL AND NONPROFIT ACCOUNTING. (3)
(Prereq: ACCT 405)

Change in number, prerequisites and description

FROM: ACCT 534 FINANCIAL ACCOUNTING III. (3) (Prereq: ACCT 433)
Advanced topics in financial theory and practice as it relates to preparation of financial statements.

TO: ACCT 501 FINANCIAL ACCOUNTING III. (3) (Prereq: ACCT 405) Advanced topics in accounting theory and practice as it relates to preparation of financial statements.

Finance

Change in prerequisites

FROM: FINA 346 SOCIAL INSURANCE. (3) (Prereq: FINA 341) TO: FINA 346 SOCIAL INSURANCE. (3)

Change in number and prerequisites

FROM: FINA 442 LIFE AND HEALTH INSURANCE. (3) (Prereq: FINA 341) TO: FINA 342 LIFE AND HEALTH INSURANCE. (3)

Change in prerequisites

FROM: FINA 444 RISK MANAGEMENT. (3) (Prereq: FINA 341) TO: FINA 444 RISK MANAGEMENT. (3) (Prereq: FINA 363)

Change in prerequisites

FROM: FINA 445 EMPLOYEE BENEFITS. (3) (Prereq: FINA 341) TO: FINA 445 EMPLOYEE BENEFITS. (3)

Change in number, prerequisites

FROM: FINA 543 PROPERTY AND LIABILITY INSURANCE. (3) (Prereq: FINA 341) TO: FINA 443 PROPERTY AND LIABILITY INSURANCE. (3) (Prereq: FINA 363)

Change in number

FROM: FINA 461 INTERMEDIATE FINANCE. (3)

TO: FINA 365 INTERMEDIATE FINANCE. (3)

Change in hours and prerequisites

FROM: FINA 463 ADVANCED FINANCE. (4) (Prereq: ACCT 431 and FINA 461)

TO: FINA 463 ADVANCED FINANCE. (3) (Prereq: FINA 365, FINA 465)

Change in prerequisites

FROM: FINA 465 COMMERCIAL BANK PRACTICE AND POLICY. (3) (Prereq: ECON 301)

TO: FINA 465 COMMERCIAL BANK PRACTICE AND POLICY. (3) (Prereq: FINA 363)

Management

Change in title

FROM: MGMT 478 BUSINESS POLICY. (3)

TO: MGMT 478 STRATEGIC MANAGEMENT. (3)

Management Science

Change in title and description

FROM: MGSC 292 APPLIED STATISTICS AND MODELING TECHNIQUES. (3)

Analysis of variance, forecasting, decision theory, queuing and simulation, linear programming, and other optimization techniques.

TO: MGSC 292 APPLIED STATISTICAL MODELING. (3) Multiple regression, ANOVA, forecasting, quality control, and nonparametric techniques. Emphasis is on the application of these statistical models in business decision making.

Marketing

Deletions

MKTG 450 MARKETING RESEARCH APPLICATIONS. (3)

MKTG 453 MARKETING STRATEGY ANALYSIS. (3)

MKTG 456 INTRODUCTION OF MARKETING RESEARCH. (3)

MKTG 550 MARKETING ENVIRONMENT. (3)

MKTG 558 PURCHASING MANAGEMENT. (3)

Change in description

FROM: MKTG 352 PRINCIPLES OF MARKETING RESEARCH. (3) (Prereq: MKTG 350, MGSC 291) Research methods and procedures used in the marketing process.

TO: MKTG 352 PRINCIPLES OF MARKETING RESEARCH. (3) (Prereq: MKTG 350, MGSC 291) Investigates the theory and practice of marketing research with emphasis on the problem- oriented nature of marketing research and how research activities are implemented by marketing researchers and used by managers.

FROM: MKTG 455 MARKETING COMMUNICATIONS AND STRATEGY. (3)
The promotion process for consumer and industrial products.

TO: MKTG 455 MARKETING COMMUNICATIONS AND STRATEGY. (3)
(Prereq: MKTG 350) Studies the integration of advertising, sales promotion, point-of- purchase communications toward the goal of enhancing brand equity.

Change in title and description

FROM: MKTG 457 PERSONAL SELLING MANAGEMENT AND SALES. (3)
(Prereq: MKTG 350) Principles of selling and their relationship to the management of a sales force.

TO: MKTG 457 PERSONAL SELLING AND SALES MANAGEMENT. (3)
(Prereq: MKTG 350) Examines fundamentals of personal selling and sales management and the development of communication and selling skills that yield desired sales results.

COLLEGE OF BUSINESS ADMINISTRATION

Economics

Change in number

FROM: ECON 462 PUBLIC FINANCE. (3)

TO: ECON 562 PUBLIC FINANCE. (3)

Change in prerequisites

FROM: ECON 594 INTRODUCTION TO ECONOMETRICS. (3) (Prereq: MGSC 292) TO: ECON 594 INTRODUCTION TO ECONOMETRICS. (3) (Prereq: MGSC 291 or STAAT 201)

Change in title and description

FROM: ECON 508 ECONOMICS OF CRIME AND JUSTICE. (3) Contribution of economics to the understanding of resource allocation problems.

TO: ECON 508 LAW AND ECONOMICS. (3) Economic analysis and interpretation of the law. The economic effect of current law and optimal design of law to meet social objectives.

New course

ECON 531 HEALTH ECONOMICS. (3) Applications of economic analysis to health care. Structure and behavior of health care markets. Description of health care policy issues.

Change in prerequisites and description

FROM: ECON 363 BUSINESS FINANCE. (3) (Prereq: ACCT 222 and 3 hours of statistics) The procurement and management of wealth by privately owned profit-seeking enterprises.

TO: ECON 363 BUSINESS FINANCE. [=FINA 363] (3) (Prereq: ACCT 222 and 3 hours of statistics) The procurement and management of wealth by privately owned profit-seeking enterprises.

Change in prerequisites

FROM: ECON 511 SENIOR SEMINAR IN ECONOMICS. (3) (Prereq: ECON 321 and 322, and permission of instructor)

TO: ECON 511 SENIOR SEMINAR IN ECONOMICS. (3) (Prereq: ECON 321 and 322)

Economics

Change in curriculum, University Bulletin, page 149UG

NOTE: The curriculum changes are not available through the Web at this time, but a printed copy has been sent to your Dean, Department Chairs, and Senators.

COLLEGE OF BUSINESS ADMINISTRATION

Change in curriculum, University Bulletin, pages 87- 90 UG

NOTE: The curriculum changes are not available through the Web at this time, but a printed copy has been sent to your Deans, Department Chairs, and Senators.

II. COLLEGE OF ENGINEERING

A. Department of Mechanical Engineering

New course

EMCH 561 CURRENT TOPICS IN MECHANICAL ENGINEERING. (3) (Prereq: consent of instructor) Special topics related to current issues in Mechanical Engineering. Course content varies and will be announced in the schedule of courses by suffix and title.

Change in number, prerequisites and description

FROM: EMCH 447 INTERMEDIATE FLUID MECHANICS. (3) (Prereq: ENGR 360) Fundamentals of irrotational and rotational fluid motion and its application to flow in channels and around bodies. Study of rotodynamic pumps and turbines. Steady flow in closed conduits and pipe system networks. Unsteady flows.

TO: EMCH 560 INTERMEDIATE FLUID MECHANICS. (3) (Prereq: ENGR 360, ENGR 210) Integral and differential analysis of fluids. Potential flow. Boundary layer analysis. Flow in closed and open channels. Flow dynamics of turbomachinery. Steady and unsteady flows.

B. Department of Chemical Engineering

Change in prerequisites

FROM: ECHE 550 CHEMICAL- PROCESS DYNAMICS AND CONTROL. (3) (Prereq: ECHE 430)

TO: ECHE 550 CHEMICAL- PROCESS DYNAMICS AND CONTROL. (3)
(Prereq: grade of C or better in ECHE 300 in MATH 242)

C. Department of Civil Engineering

Change in prerequisites

FROM: ECIV 301 PROGRAMMING AND GRAPHICS FOR CIVIL
ENGINEERING. (2) (Prereq: ENGR 101, ENGR 102) TO: ECIV 301
PROGRAMMING AND GRAPHICS FOR CIVIL ENGINEERING. (2) (Prereq:
ENGR 102 and UNIV 101E)

COLLEGE OF ENGINEERING

Change in curriculum, University bulletin, page 113UG and 114UG

Department of Electrical and Computer Engineering

Change in curriculum, University Bulletin, page 117UG

Department of Chemical Engineering

Change in curriculum, University Bulletin, page 115UG

Department of Civil and Environmental Engineering

Change in curriculum, University Bulletin, page 116UG

Department of Mechanical Engineering

Change in curriculum, University Bulletin, page 119

NOTE: The curriculum changes are not available through the Web at this time, but a printed copy has been sent to your Deans, Department Chairs and Senators.

III. COLLEGE OF EDUCATION

New courses

Counselor Education

EDCE 510 INTRODUCTION TO COUNSELING. (3) (Prereq: admission to Graduate School or senior privilege) A survey of the counseling profession including history, orientation, and practice.

Educational Psychology

EDIT 603 ELECTRONIC TECHNOLOGIES IN INSTRUCTION. (3) Review of interactive multimedia programs and their applications in instruction. Use of computer in non- linear presentation of text, graphics, animation, voice, music, photographs and motion video.

COLLEGE OF EDUCATION

New courses

EDIT 650,651 INTERNSHIP IN INSTRUCTIONAL TECHNOLOGY. (1- 3) (Prereq: EDIT 603 and EDPY 722) Supervised field- based experiences with instructional technology in school, business and administration.

Educational Media Arts

Change in designator, title and description

FROM: EDMA 652 SIMULATION AND GAMES AS INSTRUCTIONAL RESOURCES. (3)

TO: EDIT 652 DESIGN AND EVALUATION OF ACADEMIC GAMES AND SIMULATIONS. (3) Application of instructional design criteria to computer and non-computer interactions. Analyses include requisite cognitive processes, affective outcomes, and ethical standards. Design and formative testing of interactive exercises.

IV. COLLEGE OF LIBERAL ARTS

A. Department of Art

New course

ARTS 570 VISUAL ARTS COMPUTING. (3) (Prereq: ARTS 102 or consent of instructor) Advanced visual arts computing techniques on the use of Photoshop, Studio Pro, and Netscape software.

COLLEGE OF LIBERAL ARTS

B. Department of Geography

Change in title and description

FROM: GEOG 512 CULTURAL GEOGRAPHY. (3) Basic concepts of cultural geography with emphasis on the composition, formation, and interpretation of the cultural landscape.

TO: GEOG 512 ADVANCED CULTURAL GEOGRAPHY. (3) Concepts of cultural geography with emphasis on the composition, formation and interpretation of the cultural landscape.

Deletions

GEOG 513 POLITICAL GEOGRAPHY. (3)

GEOG 575 THE GEOGRAPHY OF TRAVEL AND TOURISM. (3)

New courses

GEOG 548 LANDSCAPE ECOLOGY. (3) Analysis of the relationship between landscape structure and function. Emphasis on how ecological processes create landscape- level patterns that control the flow of matter and energy across the landscape.

GEOG 566 ENVIRONMENTAL PLANNING AND MANAGEMENT. (3) (Prereq: GEOG 343 or permission of instructor) Geographical approach to environmental problems.

GEOG 569 ENVIRONMENT AND DEVELOPMENT. (3) (Prereq: permission of instructor) Examination of development theory and environmental implications of social and economic change. Study of general theoretical perspectives will be balanced with case study materials.

COLLEGE OF LIBERAL ARTS

C. Department of Spanish, Italian and Portuguese

Change in title and description

FROM: SPAN 534 NINETEENTH- CENTURY SPANISH PROSE FICTION. (3) Survey of the works of Larra, Mesonero Romanos, Galdos, Alas, Pardo Bazan and others.

TO: SPAN 534 NINETEENTH- CENTURY SPANISH LITERATURE. (3) Survey of the works of the major literary figures of the period.

D. Department of Theatre, Speech and Dance

Change in title and description

FROM: THSP 545 AMERICAN PUBLIC ADDRESS I. (3) The oral discourse of selected American speakers: their speeches, lectures and sermons analyzed and evaluated in light of the classical standards of excellence from the colonial period through 1900.

TO: THSP 545 AMERICAN PUBLIC ADDRESS. (3) The oral discourse of selected American speakers whose speeches have played a significant role in shaping and reflecting the nation's development.

FROM: THSP 546 AMERICAN PUBLIC ADDRESS II. (3) The oral discourse of selected American speakers: their speeches, lectures and sermons analyzed and evaluated in light of the classical standards of excellence from 1900 to the present.

TO: THSP 546 ALTERNATIVE VOICES. (3) The oral discourse of selected American speakers drawn from groups such as women, African- Americans, and other populations traditionally underrepresented in the canons of public address.

COLLEGE OF LIBERAL ARTS

MINOR IN MEDICAL HUMANITIES

NOTE: The minor in medical humanities is not available through the Web at this time, but a printed copy has been sent to your Deans, Department Chairs, and Senators.

V. COLLEGE OF LIBRARY AND INFORMATION SCIENCE

New course

CLIS 530 APPLICATIONS OF INFORMATION TECHNOLOGY AND THE INFORMATION INFRASTRUCTURE. (3) Introductory knowledge for school library media specialist, teachers, administrators, parents, and other citizens interested in application of information technology to support learning, decision making, and community building.

VI. COLLEGE OF NURSING

The College of Nursing is requesting withdrawal of the proposed Bulletin changes related to the curriculum that was approved at the March 5, 1997 Faculty Senate meeting except for the approved changes related to Special Requirements and Associated Expenses and Required Nursing Courses.

NOTE: The curriculum changes are not available through the Web at this time, but a printed copy has been sent to your Deans, Department Chairs, and Senators.

VII. SCHOOL OF PUBLIC HEALTH

Department of Exercise Science

New courses

EXSC 341 a,b,c HEALTH FITNESS PRACTICUM. (1 each) (Prereq: EXSC 223) Supervised practicum in a clinical setting for the Health Fitness Track: (a) first hour, (b) second hour, (c) third hour.

EXSC 342 a,b,c MOTOR DEVELOPMENT PRACTICUM. (1 each) (Prereq: EXSC 303) Supervised practicum in a clinical setting for the Motor Development Track: (a) first hour, (b) second hour, (c) third hour.

Change in credit hours, prerequisites and description

FROM: EXSC 223 ANATOMY AND PHYSIOLOGY I. (3) (Prereq: BIOL 101/ 101L) The structure and functions of the human body: the skeletal, articular, nervous, and muscular systems.

TO: EXSC 223 ANATOMY AND PHYSIOLOGY I. (4) (Prereq: BIOL 101/ 101L, CHEM 111) The structure and functions of the human body: the skeletal, articular, nervous and muscular systems. Three lecture, one recitation, and two laboratory hours per week.

FROM: EXSC 224 ANATOMY AND PHYSIOLOGY II. (3) (Prereq: BIOL 101/ 101L) The structure and functions of the human body: the circulatory, respiratory, digestive, urinary, endocrine, and reproductive systems.

TO: EXSC 224 ANATOMY AND PHYSIOLOGY II. (4) ((Prereq: BIOL 101/ BIOL 101L, CHEM 111; EXSC 223 or consent of the instructor) The structure and functions of the human body: the circulatory, respiratory, digestive, urinary, endocrine, and reproductive systems. Three lecture, one recitation, and two laboratory hours per week.

Change in prerequisites and description

FROM: EXSC 343 PRACTICUM IN EXERCISE SCIENCE. (1- 3) Supervised practicum in a clinical or research setting.

TO: EXSC 343 PRACTICUM IN EXERCISE SCIENCE. (1- 3) (Prereq: EXSC 223) Supervised practicum in a research or clinical setting for Scientific Foundations Track.

Change in prerequisites and description

FROM: EXSC 481 PRACTICUM IN COMMUNITY FITNESS PROGRAMS. (9) Supervised administration of community- based fitness programs. Concurrent seminar with the supervising instructor.

TO: EXSC 481 PRACTICUM IN COMMUNITY FITNESS PROGRAMS. (9) (Prereq: EXSC 341a,b,c) Supervised experience in the administration of community- based fitness programs. Concurrent seminar with the supervising instructor.

Change in prerequisites

FROM: EXSC 530 THE PHYSIOLOGY OF MUSCULAR ACTIVITY. (3) (Prereq: EXSC 223, EXSC 223L, EXSC 224, EXSC 224L or equivalents)

TO: EXSC 530 PHYSIOLOGY OF MUSCULAR ACTIVITY. (3) (Prereq: EXSC 223 and EXSC 224)

VIII. COLLEGE OF SCIENCE AND MATHEMATICS

Department of Statistics

Change in prerequisites

FROM: STAT 515 STATISTICAL METHODS I. (3) (Prereq: a grade of C or higher in one of STAT 201, MATH 142, BADM 291, SOCY 230, PSYC 225 or equivalent)

TO: STAT 515 STATISTICAL METHODS I. (3) (Prereq: a grade of C or higher in MATH 111 or equivalent; or STAT 201 or equivalent)

IX. MAY SESSION COURSES - For the Senate's information only:

COLLEGE OF APPLIED PROFESSIONAL SCIENCES

RETL 592M RETAILING/FASHION MERCHANDISING FIELD STUDY - HONG KONG. (3)

> COLLEGE OF EDUCATION

EDUC 300M SCHOOLS IN COMMUNITIES. (3) Schools in communities is a pre-professional course designed to prepare the prospective professional educator with a comprehensive knowledge and understanding of key issues, features and trends in American education. The course is organized around four major strands: (1) history and philosophy of education; (2) curriculum; (3) organization; and (4) special topics.

COLLEGE OF LIBERAL ARTS

Department of Anthropology

ANTH 300M COMPARING CULTURES THROUGH FILM. (3) Human behavior in differing cultural contexts through ethnographic films of social relations in selected societies.

X. EXPERIMENTAL COURSES - For the Senate's information only:

A. COLLEGE OF BUSINESS ADMINISTRATION

Marketing

MKTG 452X TOPICS IN MARKETING: MARKETING AND THE INTERNET. (3) (Prereq: MKTG 350) Develop an awareness and understanding of the issues, tools and techniques concerning marketing via the internet.

B. COLLEGE OF LIBERAL ARTS

Department of German, Slavic and Oriental Languages

GERM 250X GERMAN WITH COMPUTERS. (3) (Prereq: GERM 122 or satisfactory score on Basic Proficiency Phase II placement test) Practice and development of intermediate listening, speaking, reading, and writing through the use of authentic materials available through the Internet.

C. COLLEGE OF SCIENCE AND MATHEMATICS

GEOL 210X GEOLOGY OF ENVIRONMENTAL RESOURCES AND ISSUES. (3) Earthquakes and tsunamis, landslides, volcanoes and pyroclastic deposits, hydrologic cycle and groundwater, energy problems, hydrocarbons, coal, nuclear usage,

alternative sources such as geothermal, solar, tidal and hydroelectric. Metalliferous mining and quarrying.