

Faculty Senate

HIGHLAND HEIGHTS KY 41099 606-572-6400

FACULTY SENATE MEETING

MONDAY DECEMBER 21, 1998

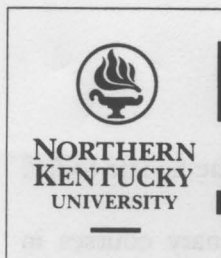
LUNCH 12 NOON

MEETING 12:45 P.M.

UC BALLROOM

AGENDA

- I. Call to Order
- II. Adoption of Agenda
- III. Approval of the Minutes from the November 23, 1998 meeting
- IV. NKU President's Comments – President Votruba
- V. Barry Andersen – Faculty Regent's Report
- VI. President's Report
 - Election Results (**Attachment**)
 - Faculty Senate election of officers 1/25/99 meeting
- VII. Committee Reports
 - A. Professional Concerns Committee
 - B. Budget and Commonwealth Affairs Committee
 - C. Curriculum Committee
 - Guidelines for Interdisciplinary courses in General Studies (**Voting item – Attachment**)
 - D. Faculty Benefits Committee
- VIII. Reform '98 Taskforces Reports
 - Curriculum
 - Faculty
 - Student Recruitment and Retention
 - Outreach
 - Campus Environment and Facilities
 - Staff Effectiveness and Satisfaction
- IX. COSFL report
- X. Budget presentation – Gerald Hunter
- XI. Adjournment



Faculty Senate

HIGHLAND HEIGHTS KY 41099 606-572-6400

FACULTY SENATE MEETING DECEMBER 21, 1998

Following a soup & salad luncheon, The Northern Kentucky University Faculty Senate was called to order at 12:45 p.m. on Monday, December 21, 1998, by President Chuck Frank.

Present for the meeting (*based on sign-in sheet*): {**Senators**} D. Agard, C. Bredemeyer, J. Churchill; G. Clayton, Y. Datta, J. Draud; L. Ebersole; C. Frank, P. Goodard, R. Holt, M. Huelsmann, R. Kelm, P. McCartney, R. McNeil, B. Mittal, J. Niewahner, L. Noyd; L. Olasov, R. Pennington, G. Ragsdale, J. Roeder, F. Schneider, G. Scott, A. Seed, C. Sheng, J. Smith, J. Thomas, T. Weiss, and S. Zachary

{**Guest**} J. Votruba, B. Andersen, R. Appleson, M. Huenning; B. Holland; G. Hunter

Absent (*based on sign-in sheet*): {**Senators**} K. Booher; R. Garns, C. Hewan, B. Kempton; B. Lorenzi, B. Thiel.

ADOPTION OF AGENDA: Approved as distributed.

APPROVAL OF MINUTES: Minutes for the November 16, 1998, Faculty Senate meetings were approved, with correction of misspelled word: "Reciprocal" Agreement in the Faculty Regent's report..

GUEST: President James Votruba provided information about several university related activities issues, such as: Fall commencement; three (3) consultants who will be visiting campus in the near future; Honors house; budget development; and proposed annual student fee; after which he responded to questions and answers.

Barry Anderson, Faculty Regent, gave a brief update: Budget presentation to Regents; Barry will attend all four commencement ceremonies Saturday..

PRESIDENT'S REPORT: C. Frank, Senate President, informed Senate that Senate related election results will be mailed and reminded Senators that Faculty Senate elections would be held on January 25, 1999.

COMMITTEE REPORTS:

C. Bredemeyer, Chair of *Professional Concerns*, had no voting items for the Senate this month but informed the body that the PCC was working on post-tenure review, intellectual property rights, and consideration of a change in the terms of selected Senate related committees.

D. Agard, Chair of **Budget and Commonwealth Affairs**, had no voting items for the Senate today.

L. Olasov, Chair of **Curriculum**, presented revised "Guidelines for Interdisciplinary courses in General Studies." The Guidelines were approved, including three abstentions.

J. Smith, Chair of **Faculty Benefits**, announced that Provost Gaston had accepted the recommendations of ranked Faculty Development Proposals.

The following "Reform '98 Task Force" reports were made: Curriculum – Linda Olasov, Integrated Math and Science and other Programs of Excellence; Faculty – Fred Schneider, inequities in compensation, faculty development planning in technology, Commonwealth Virtual University, and Benefits; Student Recruitment and Retention – Jeff Smith, a consultant (previously mentioned in President Votruba's report); Outreach – Sam Zachary, taxonomy of outreach activities now being compiled, lots of discussions about exactly what group's charge is; Campus Environment and Facilities – Gary Scott, working on inside and outside signage.; Staff Effectiveness and Satisfaction – Gaut Ragsdale, new employee orientation. Barbara Holland gave an update on Steering Committee activities.

Carol Bredemeyer gave an update on a recent COSFL meeting.

Gerald Hunter gave the University's budget presentation, similar to what was recently shared with Regents and other audiences.

Senate meeting was adjourned at 2:52 p.m.

Respectfully Submitted

Gary D. Scott, Secretary

MEMORANDUM

December 1, 1998

To: Arts & Sciences Curriculum Committee
General Studies Committee
University Curriculum Committee

FR: The Integrative Science Committee:

Ray Enzweiler, Department of Physics and Geology
Maria Falbo-Kenkel, Department of Physics and Geology
Jon Hastings, Department of Biological Sciences
Vernon Hicks, Department of Chemistry
Diana McGill, Department of Chemistry
Tom Rambo, Department of Biological Sciences
Dan Curtin (chair), Associate Dean, College of Arts and Sciences

RE: Proposed Integrated Science courses

At the request of President Votruba, Dean Redding organized the Integrative Science Committee in November of 1997. Since then the committee has spent most of its time discussing and designing a sequence of courses designed as a General Studies introduction to science from an interdisciplinary perspective.

We are seeking curricular approval of SCI 110 and SCI 111, in order that we may run a section in 1999-2000, to refine and test our ideas. This will give us the information we need to decide what the role of this sequence should be. In any case, only a section, or two will be possible until the new Science Building is open, due to space restrictions.

We believe our course will serve well in fulfilling the General Studies Program Rationale (1998-99 catalog, p. 17). Among other things it will, "help students acquire knowledge skills, and attitudes contributing to an understanding of self and the world...enhance the ability to think critically-to abstract, analyze, synthesize, and evaluate;...help enhance... the understanding of and ability to utilize mathematical and scientific principals and methods." In fact the courses will contribute to many more of the items in the rationale as well.

The New Course forms and a syllabus are attached. The syllabus gives a good idea of how we hope the course will run. The course procedures reflect our agreement on four general principles:

1. The program should be a two-semester sequence.

We would prefer that General Studies credit be granted only if both semesters are successfully completed. (This is how foreign languages are handled in the general studies requirements.) A single semester does not give the student adequate exposure to the fundamental ideas and methods of science.

2. The sequence will be based on topics that integrate the sciences.

We will select areas of study that cut across departmental boundaries, giving insight into the various sciences and the connections between them. We rejected the idea of an anthology course with several weeks of Biology, followed by several of Geology, and so on through the various disciplines.

3. The sequence will be team-taught, at least initially.

Two, or more, faculty members will be assigned to the course, perhaps even for both semesters. They will be available to answer student questions relevant to their own area of study, especially questions that probe more deeply than was anticipated. They will also serve as models of scientists working together.

4. The discovery method of teaching will predominate.

The students will deal directly with carefully chosen problems in a laboratory setting for much of the class time. The use of lectures will be limited and carefully targeted to information that is essential for getting started on the projects. We expect that there will be a good deal of writing as well as oral presentations and class discussion of varying degree of formality.

President Votruba has promised material support for our efforts, and the committee is working to achieve external funding for the implementation of the courses.

Members of the committee would be glad to try to answer any questions or concerns you may have.

Integrative Science Course Descriptions

(for curriculum forms and to appear in the catalog)

SCI 110 Integrative Science I (2,4,4)

An introduction to the scientific process and major ideas of science from the perspective of the various scientific disciplines.

PREREQ: Math ACT of 18 or placement

PREREQ or COREQ: ENG 101

SCI 111 Integrative Science II (2,4,4)

A continuation of SCI 110; with added emphasis on current issues in science and the environment.

PREREQ: SCI 110

Justification: Science discovery increasingly crosses disciplinary boundaries, so students should be shown how problems can be solved by bringing together information and techniques from all the sciences. It is hoped students will come to understand the methods and ideas of science and learn some science; all of which will be a help to them in understanding and evaluating scientific claims in later life.

Syllabus for Integrative Science (SCI 110-111)

General Information

This one-year general studies course has four major goals: 1) to introduce you to how science is conducted, 2) to improve your understanding of major ideas in science, 3) to illustrate how scientific discovery crosses disciplinary boundaries, 4) to increase your awareness of current scientific issues, and of the importance of scientific literacy to understanding and resolving these issues.

The course, which is intended for non-majors, has no prerequisites. However, you must successfully complete the first semester (SCI 110) before you can enroll in the second semester (SCI 111).

The two three-hour class meetings per week will allow you and the instructors to employ a workshop approach to learning about science; the large blocks of time provide the flexibility that is necessary in a course of this type. Some meetings may be entirely devoted to one experiment, while most will be a combination of class discussion, student presentation, lecture, computer work, observation, and problem-solving.

Text

Most of the conceptual foundation for lab activities will be provided through lectures and use of interactive CD's. You will be required to purchase a Lab Guide for each semester, and two books which contain required reading: 1) Science Matters, Achieving Scientific Literacy by R. Hazen and J. Trefil, and 2) Natural Science, Bridging

the Gaps 4th ed. by C. Wynn and A. Wiggins. Approximately every other week, you will be assigned to read one or more articles in popular science magazines (Scientific American, Science News) that are available in Steely Library. These articles will generally deal with important, current issues in science; you will be asked to write brief critical reviews of them.

Evaluation

Grades will be derived from a variety of sources, including: 1) content exams, 2) written critical responses to magazine articles, 3) lab reports that will be submitted for each topic module, 4) presentation of reports to class, 5) comprehensive final exam over content, method, and current issues.

Instructors

All classes will be team taught by two science faculty, representing two different scientific disciplines. Both faculty will be present for all class periods; each will help provide the perspective of their particular discipline.

Tentative Schedule of Topic Modules

Semester I (SCI 110)

Module 1: Population Sampling, Data Analysis, and Hypothesis Testing. Methods of data acquisition, data analysis, and hypothesis testing will be introduced within the context of several inquiry-based lab activities. Activities will be selected that will contain content that you will find interesting and generally familiar. An example: heart rate and blood pressure in : a) male vs female, b) at rest vs post-exercise, c) reclining vs erect posture.

Module 2: Energy

Forms of energy. Calorimetry. Work. Heat. Temperature and metabolism in plants and animals. Enzymes. Energy and the sun.

Module 3: Gases

Gas laws, molecules, and energy. Interstellar gases. History of the earth's atmosphere. Ventilation in animals. Gas exchange in animals and plants. Air pollution and cost/benefit analysis.

Module 4: Water

Properties of water that relate to the chemical structure of water molecules. Water as a solvent. Acids, bases, and buffers. Energy and changes in state of water. Density and buoyancy. Evapotranspiration. Osmosis. Water in space. The water cycle.

Semester II (SCI 111)

Module 1: Electricity and Light

Discovery experiments relating to Ohm's law. Neuromuscular activity. Electrocardiography. Properties of light, astronomy and spectral analysis. Absorption spectra of plant pigments, photosynthesis. Rods, cones and star-gazing. Ionosphere

Module 2: Information and Populations

Discovery experiments in molecular biology. Particle populations, chemical reactions, and radioactive decay. Population growth rates of organisms. Natural selection and evolution of populations. Antibiotic resistance in pathogenic bacteria.

Module 3: Energy and the Environment

Second law of thermodynamics and foodwebs. Greenhouse effect. Ozone, UV light, mutation, and cancer.

These modules may vary from year to year; activities will be updated each year.