



**Response to Engineering's College Curriculum Committee on Academic Affairs
Comments on "A Proposal for an Interdisciplinary Minor in Science and
Technology in Society"**

Dear Committee Members,

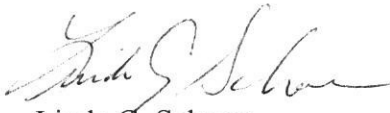
Thank you for your second review of our proposed minor "Science and Technology in Society" and comments which I received on May 30, 2006. We have revised the minor in light of the expressed concerns and hope that these revisions will resolve your concerns. The revised proposal addresses the concerns noted below.

1. The title of the minor has been renamed to "Societal Perspectives in Science and Technology" to more effectively convey that it is the interaction between society and science/technology that is the prime focus of study. An additional statement has been added to the proposal (revisions are in red) to inform students that "Completion of the minor does not imply competency in science or technological disciplines." This statement will appear on the Arts and Sciences minor sheet as well.
2. The minor has been developed with more breadth than some disciplinary minors in order to provide a structure that allows for multiple outcomes dependent on students' academic backgrounds and interests. Sample goals and curricula have been included in the proposal to clarify possible learning goals and curricula dependent on student interest. Interdisciplinarity allows for students to be exposed to multiple methods and measures for scholarly examination of a topic.
3. The information about the minor from the University of Minnesota that was included in the proposal can be found at:
<http://groups.physics.umn.edu/hsci/academics/undergrad.html> and
<http://onestop2.umn.edu/programCatalog/viewCatalogProgram.do?programID=603&strm=1059>. Their undergraduate minor complements a graduate program in History of Science and Technology, which will merge with the History of Medicine graduate program in Autumn 2007 to form a new graduate program in History of Science, Technology, and Medicine.
4. In your comments there was a statement that no one was invited from the College of Engineering to participate subsequent to the first review. I have attached email correspondence to indicate that I contacted all faculty who were identified as having possible interest in this endeavor. Within a several month time period, only responses were received from the School of Architecture. We would be

happy to receive further submissions of coursework in the future. Also, we would be happy to remove the names of any faculty from the listing in Appendix B: Faculty which indicates research and/or teaching interests in this area if so desired.

5. There were concerns expressed about the waiving of prerequisites for courses and also the number of prerequisites for some courses. The *possible* waiving of prerequisites is left up to each instructor. There may be occasions where a student's academic background in a related field may be adequate preparation for a course. We did review the course prerequisites. Courses with significant prerequisites were not automatically excluded from the minor. Although fewer students may be able to utilize these courses for the minor, we wanted to allow for such a possibility given the appropriateness of the coursework to the minor. The wide range of elective coursework should allow students to choose courses such that the completion of prerequisites is not burdensome.

Please review the revised proposal for an interdisciplinary undergraduate minor in Societal Perspectives in Science and Technology. We look forward to your comments and hope for your concurrence with this endeavor.



Linda G. Schoen
Assistant Executive Dean
Office of Interdisciplinary Programs

November 7, 2006

Linda Schoen

From: Linda Schoen [schoen.16@osu.edu]
Sent: Monday, November 28, 2005 10:24 AM
To: flores@matsceng.ohio-state.edu; kinsel.1@osu.edu; korpela.1@osu.edu; lilly.2@osu.edu; tilder.1@osu.edu
Cc: 'Ed McCaul'; 'Edward Adelson'; weide.1@osu.edu; 'Linda Schoen'
Subject: Proposed Undergraduate Minor in Science and Technology in Society
Attachments: Science and Technology in Society Minor ProposalRev.doc



Science and
Technology in Soci..

Dear Colleagues,

The Colleges of Arts and Sciences have been developing a new interdisciplinary undergraduate minor in Science and Technology in Society. Your College Committee on Academic Affairs suggested that you have expertise in this area and that you may have interest in being involved in this development. I am happy to share this proposal with you and welcome your feedback. If you have additional coursework that you think might be appropriate, please send me the syllabi and I would be happy to share it with the development committee. If you are interested, I am happy to add you to our development committee. At this point, we are not likely to meet physically but will continue to share via email. Please let me know if you have any questions.

Linda

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Engineering's College Committee on Academic Affairs
Comments on

"A Proposal for an Interdisciplinary Minor in Science and Technology in Society"

We have been asked to comment on the above proposal (Rev 4/27/06). As with the original version (Rev 3/3/05), we **do not concur**. The objections raised in our response to the first version of this proposal have not been addressed adequately.

In the first round of comments, we began by noting:

We like the *idea* of a minor in this area, and expect that there may be a significant audience for it. Our primary reason for non-concurrence is that, as proposed, this minor does not require even one course in "technology". Having OSU graduates with "Science, Technology, and Society" listed on their transcripts or diplomas, who may not know anything in depth about any *actual technology*, seems like false advertising. A similar case could be made for depth in science.

The primary change in the new proposal seems to be the name change to "Science and Technology in Society". This change is appropriate, but the title still may be misleading to students and employers. How can a student grasp the interaction between science and technology and society without understanding something about technology beyond its mere existence? The name change does not alleviate our concern about students advertised as graduating with some understanding of "technology" when there is no requirement for even a single technology course. Moreover, the name of the minor would imply to a prospective employer that it deals with modern technology. Yet, it is possible for a student to take all 15 elective hours in courses that deal with the impact of "technologies" that existed before 1900 (e.g., "Magic in the Ancient World", "Greek and Roman Science and Technology", "The Age of Modernity in the 19th Century"). Not only is no essential understanding of modern technology required, little knowledge of the interactions among modern science and modern technology and modern society—only whatever is in Comparative Studies 272—is required.

The proposal also now emphasizes in several places that the minor is intended for students "particularly in science and engineering fields". Our concern is not about these students, but rather that students majoring in *other* fields need not learn about technology. When we said "there may be a significant audience for it", we were not referring to engineering students, but rather to students who currently are not required to take any courses about technology. Every student has a GEC science requirement but there is no parallel requirement regarding technology. This minor could, therefore, be completed by a student whose understanding of technology consisted of little more than the ability to drive a car and to use a computer.

We suggest that there would be serious objections within ASC to a proposed minor in "Art and Music in Society" in which depth in art derived from the GEC visual and performing arts requirement, and in which music requirements were nil on the grounds that most students would already know how to operate an iPod. Though we do not want to take this analogy too far, we hope it helps clarify our refusal to concur because technology content is essentially non-existent.

Our response to the initial proposal included two other observations:

Our understanding of the nature of a "minor" (as opposed to, say, the GEC) is that a student should achieve some depth of knowledge in a focused topic area. This minor offers a smorgasbord of courses connected to each other by very little prerequisite structure. So, it seems unlikely a student will get much depth in the nominal topic area of the minor; perhaps breadth, surely different points of view from various disciplines about some aspects of the topic area, but not much depth. It may be that studying multiple points of view about some topic—explicitly at the expense of depth—is what distinguishes a "multidisciplinary minor" from an ordinary "minor". We are not aware of a clear definition of either term.

We find in the new proposal no response or attention to this concern. At this point, then, it seems there is no accepted definition of "multidisciplinary minor" (or "interdisciplinary minor" as it is called in this version). We submit that focus and depth beyond what is obtained in a single course or in a cafeteria-style selection of courses *should be* a requirement for any OSU minor, interdisciplinary or not.

A statement is made that this proposal parallels curricular offerings in Science, Technology and Society¹ at three institutions. The University of Michigan and the University of Texas at Austin do have minors with somewhat similar structure. However, both appear of be directed primarily to liberal arts students, and the latter is about the social impact of information technology rather than the more general "science and technology". No such minor was found via an internet search at the University of Minnesota web site. This proposal would benefit from further comparison to these exemplars for similarities and differences. Perhaps some indication of the success of these minors could be included.

Our final observation regarding the original proposal was:

Page 2 of the proposal implies that faculty from other units with jurisdictional interest in the apparent intellectual content of the minor were invited to participate in development of this minor. To our knowledge, no one from the College of Engineering was consulted—though Engineering is widely considered *the* "technology" college at OSU and offers courses that an external observer would expect to be part of a minor with competence in "technology" implied in its name. Several courses offered in Engineering should be appropriate for students (including non-Engineering students) in this minor, e.g., ENG 181, ENG 183, ENG 367, and several discipline-specific courses. In addition, there are several faculty members in Engineering whose intellectual, professional, and teaching interests include the general topic area of this minor, e.g., Kathy Flores (Materials Science and Engineering), Gary Kinzel and Seppo Korpela (Mechanical Engineering), Blaine Lilly (Industrial, Welding, and Systems Engineering), and Lisa Tilder (Architecture). We would be interested in contributing to this minor.

The new proposal now lists the names of the above Engineering faculty members and even a couple others. To date, however, apparently none of them outside Architecture has been

¹ The proposal reads "... and Science", but it is assumed this is mistyped.

contacted to invite their participation in contributing to the proposed minor. The Engineering courses listed are Engineering 367 (a second writing course) and a few from the School of Architecture. No one has yet asked us which other courses might be appropriate.

We have one additional concern that was not mentioned in our response to the initial proposal. The courses listed in the minor may not have been carefully screened to determine how difficult it would be for students to meet the prerequisites, based on the *2005-2006 Course Offerings Bulletin*. If a student wants to take a course as part of the minor and does not need to meet the prerequisites but is able to get permission of the instructor, then what is the purpose of the prerequisites? Some examples are:

- Philosophy 455, one of the four core courses, has the following prerequisites: Philosophy 250 and either a major in philosophy or 15 credit hours of philosophy course work exclusive of Philosophy 150; or permission of instructor.
- Communication 341, an elective course, has a prerequisite of journalism or communications major with no mention of permission of instructor.
- Entomology 531, an elective course, has prerequisites of 5 credit hours in organic chemistry and 10 credit hours in biological sciences at the 200 level or above.
- Natural Resources 400, an elective course, has prerequisites of Natural Resources 201 and 203.
- Philosophy 655, an elective course, has prerequisites of Philosophy 250 and 10 credit hours of philosophy work at the 300 level or above (preferably 460); or graduate standing; or permission of instructor.
- Psychology 695.04, an elective course, has prerequisites of written permission of instructor; either Psychology 219 or 220 or 320, or Statistics 145 or 245; and 17 credit hours of psychology course work above the 200 level; or graduate standing.
- Three elective courses require that the student be in the major or receive permission of the instructor.

The College of Engineering remains willing to contribute to the development of the proposed minor in assuring that students have the foundational knowledge needed to meet the goals of the minor, and that technology plays a role similar to those of science and society in the study of their mutual interactions. However, without such contribution and collaboration, Engineering does not concur with the current proposal.

Engineering's College Committee on Academic Affairs
Ed McCaul
Secretary

26 May 2006

Engineering's College Committee on Academic Affairs
Comments on
"A Proposal for a Multidisciplinary Minor in Science, Technology, and Society"

We have been asked to comment on the above proposal (Rev 3/3/05). We **do not concur** with the proposal for the following reason:

We like the *idea* of a minor in this area, and expect that there may be a significant audience for it. Our primary reason for non-concurrence is that, as proposed, this minor does not require even one course in "technology". Having OSU graduates with "Science, Technology, and Society" listed on their transcripts or diplomas, who may not know anything in deep about any *actual technology*, seems like false advertising. A similar case could be made for depth in science.

We make the following additional observations:

1. Our understanding of the nature of a "minor" (as opposed to, say, the GEC) is that a student should achieve some *depth* of knowledge in a focused topic area. This minor offers a smorgasbord of courses connected to each other by very little prerequisite structure. So, it seems unlikely a student will get much depth in the nominal topic area of the minor; perhaps breadth, surely different points of view from various disciplines about some aspects of the topic area, but not much depth. It may be that studying multiple points of view about some topic—explicitly at the expense of depth—is what distinguishes a "multidisciplinary minor" from an ordinary "minor". We are not aware of a clear definition of either term.
2. Page 2 of the proposal implies that faculty from other units with jurisdictional interest in the apparent intellectual content of the minor were invited to participate in development of this minor. To our knowledge, no one from the College of Engineering was consulted—though Engineering is widely considered *the* "technology" college at OSU and offers courses that an external observer would expect to be part of a minor with competence in "technology" implied in its name. Several courses offered in Engineering should be appropriate for students (including non-Engineering students) in this minor, e.g., ENG 181, ENG 183, ENG 367, and several discipline-specific courses. In addition, there are several faculty members in Engineering whose intellectual, professional, and teaching interests include the general topic area of this minor, e.g., Kathy Flores (Materials Science and Engineering), Gary Kinzel and Seppo Korpela (Mechanical Engineering), Blaine Lilly (Industrial, Welding, and Systems Engineering), and Lisa Tilder (Architecture). We would be interested in contributing to this minor.

Ed McCaul
Secretary
Engineering's College Committee on Academic Affairs
6 May 2005