Memorandum

To: University Senate

From: Kay N. Wolf, Chair
Council on Academic Affairs

Date: March 8, 2012

A PROPOSAL FROM THE COUNCIL ON ACADEMIC AFFAIRS TO CHANGE THE
NAMES OF THE ACADEMIC PROGRAMS LEADING TO THE BACHELOR OF
ARTS AND BACHELOR OF SCIENCE (AND RELATED UNDERGRADUATE
MINORS), MASTER OF SCIENCE, AND DOCTOR OF PHILOSOPHY DEGREES,
FROM GEOLOGICAL SCIENCES TO EARTH SCIENCES, SCHOOL OF EARTH
SCIENCES, COLLEGE OF ARTS AND SCIENCES

WHEREAS the School of Earth Sciences was established by the Board of
Trustees on June 7, 2006, but the academic programs leading to the
Bachelor of Arts, Bachelor of Science, Master of Science, and
Doctor of Philosophy retained the name of the department from the
which the school had emerged - Geological Sciences; and

WHEREAS the School determined that as part of the semester conversion
process, it would now align the name of its degree programs with
the name of its School; and

WHEREAS the Bachelor of Arts, Master of Science, and Doctor of Philosophy
degree programs were converted with minimal changes, and the
Bachelor of Science was re-envisioned but emphasizes areas
within the School that reflect the breadth of content and interests of
the faculty; and

WHEREAS the proposal for the change has the support of the School’s faculty,
and of the College of Arts and Sciences, and the graduate degree
program name changes have been approved by the Graduate
Council; and

WHEREAS the proposals for the degree programs were approved by the
Council on Academic Affairs, at meetings on June 17, 2011, June,
29, 2011 and November 2, 2011;
NOW THEREFORE BE IT RESOLVED that the University Senate approve the proposal from the School of Earth Sciences to change the names of its degree programs leading to the Bachelor of Arts and Bachelor of Science (and related undergraduate minors) and Master of Arts and Doctor of Philosophy, from Geological Sciences to Earth Sciences, and respectfully request concurrence from the Board of Trustees.
June 2, 2011

To: W. Randy Smith, Vice Provost, Office of Academic Affairs
From: Terry L. Gustafson, Special Assistant to the Executive Dean for Semester Conversion

Re: Arts and Sciences Program Proposals from the Natural and Mathematical Sciences Division

Arts and Sciences is pleased to submit the following programs from the Natural and Mathematical Sciences Division to the Office of Academic Affairs for conversion from quarters to semesters. The programs have been approved by the faculty members and chair of the originating unit, and reviewed and approved by the divisional advisory panel, a subcommittee of the ASC Committee on Curriculum and Instruction (CCI), and the full CCI. The vote for approval of all programs at the full CCI was unanimous.

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Academic Plan Code</th>
<th>Conversion Designation</th>
<th>CCI Approval</th>
<th>Last Revision</th>
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<td>Prior to 2006</td>
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<td>5/20/2011</td>
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**Arts and Sciences General Education (GE) Program:** The GE program for untagged B.A. and B.S. degrees in Arts and Sciences was approved by the Council on Academic Affairs on May 26, 2010, after receiving approval from the Arts and Sciences Faculty Senate. All the programs presented here follow the approved GE program.

**College of Arts and Sciences Transition Policy:** The College of Arts and Sciences is committed to the principles outlined in the university’s Pledge to Undergraduate Students. Each unit has a plan on how best to assist its majors and minors through the transition. And the Arts and Sciences Academic Advising Services will advise students on how to transition their GE program. Dual advising is the existing process used in Arts and Sciences and will continue under semesters.
DATE: 5 January 2011

TO: NMS, ASC, and OAA Reviewers

FROM: Lawrence Krissek, Associate Director for Administration, School of Earth Sciences (Acting Director, 23 December 2010 to ~15 January 2011)

on behalf of W. Berry Lyons, Director, School of Earth Sciences

SUBJECT: Conversion of Geological Sciences undergraduate programs (B.S., B.A., and minors) from quarters to semesters

At the undergraduate level, the School of Earth Sciences presently offers a B.S. in Geological Sciences, a B.A. in Geological Sciences, and a minor in Geological Sciences with 6 tracks: Archeology and Anthropology, Economic Geology, Environmental Studies, Geochemistry, Geophysics, and Mineralogy and Petrology. During the conversion to semesters, we request that the names of all our programs be changed from Geological Sciences to Earth Sciences, so that the names of our degree and minor programs match the name of our School. This detail was not included at the time the School of Earth Sciences was established, so the quarter-to-semester conversion provides an opportunity to establish uniformity between the name of our unit and the names of our undergraduate programs.

In addition to changing the names of our undergraduate degrees and minors, the extent of change during the quarter-to-semester conversion ranges from minimal (for the B.A. and the existing minor tracks) to a significant re-envisioning (for the B.S., where 4 tracks are proposed, and for the minor, with the addition of 2 new tracks). The conversion of our graduate programs will be addressed in a separate letter.

The process that developed the conversions proposed here was led by Prof. Larry Krissek, the SES Associate Director for Administration and chair of the SES Curriculum Committee. Because of the importance of this conversion, the process used the entire faculty as a committee-of-the-whole, with additional input from students, alumni, and potential employers of our graduates. Information from benchmark institutions and from a survey of curricular requirements at 150+ Earth Science/Geological Science departments in the U.S. also was used to guide our discussions.

Beginning in Winter 2010, faculty were informed of the developing boundary conditions (particularly the credit hours required for a degree, and the new General Education requirements) for semester based degree programs and minors at faculty meetings and via e-mail, and were encouraged to think creatively about the form and content of our undergraduate programs under semesters. The primary focus of discussions within SES was the B.S. program, since the B.S. is the degree taken by the vast majority of our students and is the degree that prepares students for careers as professional earth scientists.

As a result of changes within our faculty in the past decade, combined with the establishment of the School of Earth Sciences, the range of topics considered by our faculty and students has broadened significantly beyond the traditional geological sciences. This breadth of content and interests is not reflected in our present B.S. curriculum, so our discussions quickly focused on whether to establish tracks within our B.S. program. After extensive discussions in small groups and at several faculty meetings, the
faculty voted – on 4 March 2010 – to explore the development of tracks within our B.S. program. That vote was 22 in favor, 2 against, and no abstentions.

Ad hoc faculty “working groups” subsequently developed plans for 4 tracks within our B.S. – Geological Sciences, Earth System Science, Geophysics, and Petroleum Geology and Geophysics. The proposals for the first 3 tracks were discussed at several faculty meetings during Spring 2010, and these tracks were approved by a unanimous faculty vote at a faculty meeting on 9 June 2010 (15 yes, 0 no, 0 abstentions). The proposal for the Petroleum Geology and Geophysics track was developed by another ad hoc “working group” during Summer 2010, was discussed extensively by e-mail during August and September 2010, and was approved by a near-unanimous vote at a faculty meeting on 7 October 2010 (21 yes, 1 no, 0 abstentions).

Conversion of our B.A. was discussed at several faculty meetings and by small groups during Spring 2010, with the conclusion that our existing B.A. should be converted with relatively minimal changes. This conversion proposal was approved by unanimous vote at a faculty meeting on 9 June 2010 (15 yes, 0 no, 0 abstentions).

Conversion of our undergraduate minors also was discussed at several faculty meetings and by small groups during Spring 2010. In addition to concluding that the 6 existing tracks should be converted with relatively minimal changes, the faculty also agreed that we should institute 2 additional tracks: 1) a more generalized Earth Sciences track, and 2) a track in Paleontology. The conversion proposal for the 6 existing tracks and the new Earth Sciences track was approved by a near-unanimous vote at a faculty meeting on 9 June 2010 (14 yes, 1 no, 0 abstentions); the proposal for the new track in Paleontology was approved unanimously by e-mail vote in late June (15 yes, 0 no, 0 abstentions). The conversion proposal for the Environmental Studies track subsequently underwent minor revision, and the revised proposal for that track was approved by a near-unanimous vote at a faculty meeting on 7 October 2010 (20 yes, 1 no, 1 abstention).

The details of these conversions are included in the appropriate program templates and proposals. Please contact us if you have any questions.

Thank you for your attention to these proposals.

W. Berry Lyons          Lawrence Krissek
Professor and Director  Professor and Associate Director for Administration
School of Earth Sciences School of Earth Sciences
April 25, 2011

Larry Krissel
Chair, Arts and Sciences CCI

Dear Larry:

It is a pleasure to forward to you for consideration by the CCI and the Sciences Subcommittee the proposal for the BA major in Earth Sciences under semesters. The School of Earth Sciences is requesting that this major, formerly known as “Geological Sciences,” be re-titled “Earth Sciences” in alignment with the name of the school. The major has been modified from its present quarter version mainly by raising the required course level minimums, and by allowing a limited number of courses outside Earth Sciences to count with permission.

Beyond my own review of the documents, the proposal has been discussed by colleagues from other NMS units at a meeting on January 26, 2011, and by the CCI Sciences Subcommittee. Feedback from these discussions has now been incorporated in the proposal.

If you have any questions, I would be happy to address them.

Sincerely,

David Andereck
Professor of Physics
Associate Dean of Natural and Mathematical Sciences, College of Arts and Sciences
Fiscal Unit/Academic Org: School of Earth Sciences - D0656
Administering College/Academic Group: Arts And Sciences
Co-administering College/Academic Group: Mathematical And Physical Sci
Semester Conversion Designation: Converted with minimal changes to program goals and/or curricular requirements (e.g., sub-plan/specification name changes, changes in electives and/or prerequisites, minimal changes in overall structure of program, minimal or no changes in program goals or content)
Current Program/Plan Name: Geological Sciences
Proposed Program/Plan Name: Earth Sciences BA
Program/Plan Code Abbreviation: GEOLSCI-BA
Current Degree Title: Bachelor of Arts

Credit Hour Explanation

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<th>B) Calculated result for 2/3rds of current (Semester credit hours)</th>
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Explain any change in credit hours if the difference is more than 4 semester credit hours between the values listed in columns B and C for any row in the above table.

The semester version of the B.A. provides an opportunity for students to take up to 6 semester credit hours of approved coursework at the 3000-level or above outside Earth Sciences, whereas the quarter version of the B.A. did not allow coursework outside Earth Sciences. Introducing this increased flexibility in course selection has created what appears to be a large change in the maximum credit hours required outside Earth Sciences, although this increase in credit hours that can be taken outside Earth Sciences is offset by the option to take fewer credit hours within Earth Sciences. Faculty in the School of Earth Sciences favor this increased flexibility, because it will allow our B.A. students to prepare better for a broad range of career paths.

Program Learning Goals

Note: these are required for all undergraduate degree programs and majors now, and will be required for all graduate and professional degree programs in 2012. Nonetheless, all programs are encouraged to complete these now.

Program Learning Goals

- Students critically read and evaluate Earth Science literature.
- Students present Earth Science information in a clear and logical manner, both orally and in writing.
- Students apply knowledge of Earth Science data to understand the dynamic physical, chemical, and biological processes of the Earth and its history.
- Students apply knowledge of appropriate techniques, field methods, field mapping, and numerical methods to measure, portray, analyze, and interpret Earth Science data in specific subdisciplines.
- Students identify Earth Science problems and develop solutions.
- Students apply knowledge of modern applications from chemistry, physics, biology, mathematics, statistics, and computing to the solution of Earth Science problems.
Assessment

Assessment plan includes student learning goals, how those goals are evaluated, and how the information collected is used to improve student learning. An assessment plan is required for undergraduate majors and degrees. Graduate and professional degree programs are encouraged to complete this now, but will not be required to do so until 2012.

Is this a degree program (undergraduate, graduate, or professional) or major proposal? Yes

Does the degree program or major have an assessment plan on file with the university Office of Academic Affairs? Yes

Summarize how the program's current quarter-based assessment practices will be modified, if necessary, to fit the semester calendar. No modifications are planned or required.

Program Specializations/Sub-Plans

If you do not specify a program specialization/sub-plan it will be assumed you are submitting this program for all program specializations/sub-plans.

Pre-Major

Does this Program have a Pre-Major? No

Attachments

- Earth Sciences BA Semester Proposal Attach2 rev 22 April.doc: Earth Sci BA Attachment 2 rev 22 April
  (Program Proposal. Owner: Krissek, Lawrence Alan)
- Earth Sci BA EXAMPLE 4 YEAR PLANS rev 22 April.doc: Earth Sci BA Sample 4 yr Plans
  (Other Supporting Documentation. Owner: Krissek, Lawrence Alan)
- Earth Sciences BA cover letter.doc: NMS Division of Arts and Sciences cover letter
  (Letter from the College to OAA. Owner: Andereck, Claude David)

Comments

Workflow Information

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June 1, 2011

Larry Krissek  
Chair, Arts and Sciences CCI

Dear Larry:

It is a pleasure to forward to you for consideration by the CCI and the Sciences Subcommittee the proposal for the Bachelor of Science major in Earth Sciences under semesters. The School of Earth Sciences is requesting that this major, formerly known as “Geological Sciences,” be re-titled “Earth Sciences” in alignment with the name of the school. The Geological Sciences major is proposed to be one of four transcriptable specializations under the new over-arching Earth Sciences title, while the other three reflect additional areas of current importance in the field.

Beyond my own review of the documents, the proposal has been discussed by colleagues from other NMS units at a meeting on May 24, 2011. Feedback from these discussions has now been incorporated in the proposal.

If you have any questions, I would be happy to address them.

Sincerely,

David Andereck  
Professor of Physics  
Associate Dean of Natural and Mathematical Sciences, College of Arts and Sciences
Fiscal Unit/Academic Org: School of Earth Sciences - D0656
Administering College/Academic Group: Arts And Sciences
Co-administering College/Academic Group: Mathematical And Physical Sci
Semester Conversion Designation: Re-envisioned with significant changes to program goals and/or curricular requirements (e.g., degree/major name changes, changes in program goals, changes in core requirements, structural changes to tracks/options/courses)
Current Program/Plan Name: Geological Sciences
Proposed Program/Plan Name: Earth Sciences BS
Program/Plan Code Abbreviation: GEOLSCI-BS
Current Degree Title: Bachelor of Science

Credit Hour Explanation

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Explain any change in credit hours if the difference is more than 4 semester credit hours between the values listed in columns B and C for any row in the above table.

Each of the 4 subprograms requires the same Preparation for the Major, and a total of 30-31 semester credit hours in the Major Program. One of the new subprograms -- Earth System Science -- requires that at least 6 credit hours be taken outside Earth Sciences from a list of approved courses. Since the Major Program for our existing B.S. does not require any coursework outside Earth Sciences, there is a change of +6 credit hours in the category of "maximum required credit hours offered outside the unit". For the remaining 3 subprograms, the "credit hours required outside the unit" remains at 0, as it is in our present B.S.

Program Learning Goals

Note: these are required for all undergraduate degree programs and majors now, and will be required for all graduate and professional degree programs in 2012. Nonetheless, all programs are encouraged to complete these now.

Program Learning Goals

- Students critically read and evaluate Earth Science literature
- Students present Earth Science information in a clear and logical manner, both orally and in writing
- Students apply knowledge of Earth Science data to understand the dynamic physical, chemical, and biological processes of the Earth and its history
- Students apply knowledge of appropriate techniques, field methods, and numerical methods to measure, portray, analyze, and interpret Earth Science data in specific subdisciplines
- Students identify Earth Science problems and develop solutions
- Students apply knowledge of modern applications from chemistry, physics, biology, mathematics, statistics, and computing to the solution of Earth Science problems
Assessment

Assessment plan includes student learning goals, how those goals are evaluated, and how the information collected is used to improve student learning. An assessment plan is required for undergraduate majors and degrees. Graduate and professional degree programs are encouraged to complete this now, but will not be required to do so until 2012.

Is this a degree program (undergraduate, graduate, or professional) or major proposal? Yes

Does the degree program or major have an assessment plan on file with the university Office of Academic Affairs? Yes

Summarize how the program's current quarter-based assessment practices will be modified, if necessary, to fit the semester calendar.

No changes to our assessment practices will be needed.

Program Specializations/Sub-Plans

If you do not specify a program specialization/sub-plan it will be assumed you are submitting this program for all program specializations/sub-plans.

Program Specialization/Sub-Plan Name          Geological Sciences (Existing)
Program Specialization/Sub-Plan Goals

Program Specialization/Sub-Plan Name          Petroleum Geology & Geophysics (New)
Program Specialization/Sub-Plan Goals

Program Specialization/Sub-Plan Name          Geophysics (New)
Program Specialization/Sub-Plan Goals

Program Specialization/Sub-Plan Name          Earth System Science (New)
Program Specialization/Sub-Plan Goals

Pre-Major

Does this Program have a Pre-Major? No

Attachments

* Earth Sci BS Attachment 2_revision 25 May.doc: Earth Sci BS Program Proposal and Curriculum Map
  (Program Proposal. Owner: Krissek,Lawrence Alan)

* Earth Sciences BS cover letter.doc: NMS Division of Arts and Sciences cover letter
  (Letter from the College to OAA. Owner: Andereck,Claude David)

Comments

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LETTER FROM PROGRAM-OFFERING UNIT

DATE: 9 June 2011

TO: NMS, Graduate School, and OAA Reviewers

FROM: Lawrence Krissek, Associate Director for Administration, School of Earth Sciences
       and
       W. Berry Lyons, Director, School of Earth Sciences

SUBJECT: Conversion of graduate programs (M.S. and Ph.D.) in the School of Earth Sciences from quarters to semesters

At the graduate level, the School of Earth Sciences presently offers an M.S. in Geological Sciences (with both a thesis option and a non-thesis option), and a Ph.D. in Geological Sciences. During the conversion to semesters, we request that the names of these programs be changed from Geological Sciences to Earth Sciences, so that the names of these degree programs match the name of our School. This detail was not included at the time the School of Earth Sciences was established, so the quarter-to-semester conversion provides an opportunity to establish uniformity between the name of our unit and the names of our undergraduate programs.

The School of Earth Sciences also offers an M.S. in Geodetic Sciences (with both a thesis option and a non-thesis option) and a Ph.D. in Geodetic Sciences; both the M.S. and the Ph.D. programs will be converted to the semester format. These programs will retain their present names, because of the long history and distinct identity of Geodetic Sciences at Ohio State.

Graduate Programs in Earth Sciences (presently Geological Sciences)

In addition to changing the names of our existing graduate programs in Geological Sciences, the extent of change during the quarter-to-semester conversion ranges from minimal (for the conversion of the M.S. in Geological Sciences to the M.S. in Earth Sciences) to slightly more significant (for the conversion of the Ph.D. in Geological Sciences to the Ph.D. in Earth Sciences, which includes a reduction in credit hour requirements beyond the standard 2/3rds ratio).

The process that developed the conversions proposed here was led by Prof. William Ausich, Associate Director for Graduate Studies in SES. The requirements of the existing graduate programs in Geological Sciences were discussed within the SES Graduate Studies Committee, with input from both faculty and graduate student members. Each member of the Graduate Studies Committee consulted with his/her constituency within SES (i.e., the Earth History Division, the Earth and Planetary Dynamics Division, the Water, Environment, and Climate Division, and the graduate students), so that all faculty and graduate students had the opportunity to provide input to the proposed conversions. In addition, Prof. Ausich held an open forum with all interested graduate students in Autumn 2010, and the plans for program conversion were discussed, as they developed, at several faculty meetings in Autumn 2010.

For the M.S. thesis option, consensus quickly developed that: 1) the quarter credit hour requirements should be reduced by the standard 2/3rds ratio, thereby keeping the semester requirements consistent with the minimum requirements established by the Graduate School; and 2) no new requirements should be added. The motion to convert the M.S. thesis option in this way was approved at a faculty meeting on 17 November 2010, with a vote of 21 in favor, 0 opposed, and 0 abstentions.
For the M.S. non-thesis option, consensus quickly developed to: 1) reduce the quarter credit hour requirements by the standard 2/3rds ratio; and 2) clearly define the courses that satisfy the core requirements and the capstone project. The Earth History Division, the Earth and Planetary Dynamics Division, and the Water, Environment, and Climate Division each identified a set of courses that will serve as core courses for their non-thesis M.S. students, and a new course (Earth Sci 8570) was created to satisfy the capstone requirement. The motion to convert the M.S. non-thesis option in this way was approved at a faculty meeting on 5 May 2011, with a vote of 16 in favor, 0 opposed, and 1 abstention.

For the Ph.D. program in Earth Sciences, discussion primarily focused on the number of graded credit hours to require under semesters. The Geological Sciences Ph.D. requirements for both graded quarter credit hours and total quarter credit hours were not changed several years ago, when the Graduate School reduced its minimum credit hour requirements; as a result, the standard 2/3rds reduction moving to semesters would have kept our requirements well above the minimum set by the Graduate School. Our Ph.D. students are -- and will continue to be -- encouraged to take their candidacy exam during their 2nd year, in order to maintain “normal progress” toward their degree. However, an increasing number of them have encountered difficulty meeting our existing requirements for graded and total credit hours because of the combination of: 1) our continued requirement above the minimum established by the Graduate School; 2) the relatively early time when the Ph.D. candidacy exam is taken; and 3) the 3 credit limit for post-candidacy enrollment recently established by the Graduate School. This difficulty has been even more severe for our increasing number of students who enter the Ph.D. program without completing an M.S. first, because these students do not transfer credits – either graded or ungraded -- from their M.S. program.

Because we anticipate that Ph.D. students will continue to face this situation under semesters, it was proposed that the total credit hour requirement be reduced to 80 semester credit hours, in order to match the minimum requirements set by the Graduate School. This motion was approved by unanimous faculty vote on 17 November 2010. The remaining vote considered whether to set the minimum graded credit hour requirement at 30 semester credit hours or at 34 semester credit hours; at the faculty meeting of 17 November 2010, the vote was 12 in favor of 30 semester credit hours, 8 in favor of 34 semester credit hours, and 1 abstention. As a result, the semester version of our Ph.D. program requires a minimum of 30 graded semester credit hours, and a minimum of 80 semester credit hours.

**Graduate Programs in Geodetic Sciences**

The graduate programs in Geodetic Sciences are being significantly re-envisioned during conversion, both in terms of their credit hour requirements and in terms of the structure and course offerings within each program. This re-envisioning brings the credit hour requirements for the various Geodetic Science graduate programs into alignment with existing Graduate School guidelines. In addition, this re-envisioning is necessary because the move of the Geodetic Science program from Engineering to SES has significantly reduced the number of faculty and courses available to support these programs. As a result, the re-envisioned programs have been simplified and focused on the strengths of the existing Geodetic Science faculty within SES.

Conversion of the graduate programs in Geodetic Sciences was led by Prof. Christopher Jekeli, head of the Geodetic Sciences Division within SES. Because the Geodetic Sciences Division is small, conversion plans were developed through discussions and direct consultations within that Division. The conversion plans developed by the Geodetic Sciences Division were then distributed via e-mail to all SES faculty, and were discussed at an SES faculty meeting in February 2011. The proposed conversions were approved by an e-vote, with 20 in favor, 1 opposed, and no abstentions.
For the M.S. thesis option, the minimum credit hour requirements are reduced by more than the standard factor of 2/3rds, from a minimum of 52-57 quarter credit hours (depending on the area of concentration and the specific courses chosen) to a minimum of 30 semester credit hours. In the semester format, “core courses” are selected in 4 categories from lists of options, whereas “core courses” were more completely prescribed in the quarter format. Three pre-approved tracks of “core courses” are available under semesters, in the areas of Geodesy, GIS, and Geodynamics, whereas pre-approved tracks in Geodesy, Photogrammetry, and Mapping & GIS were available under quarters. This change in subject area of the tracks reflects the change in composition of the Geodetic Science faculty as they moved from Engineering to SES, and the reduction in the minimum credit hour requirement reflects the reduced faculty numbers in the Geodetic Science program. The M.S. thesis option maintains the requirement for independent research and the completion and defense of a written research thesis.

For the M.S. non-thesis option, credit hour requirements also are reduced by more than the standard factor of 2/3rds, from a range of 58-67 quarter credit hours (with the range depending on the specific courses chosen) to a minimum of 30 semester credit hours. As with the other Geodetic Science graduate programs, the reduction in the minimum credit hour requirement reflects the reduced number of faculty and course offerings in the Geodetic Science program. The M.S. non-thesis option maintains the requirements for a written technical paper and a written comprehensive examination.

For the Ph.D., credit hour requirements are reduced by more than the standard factor of 2/3rds, in order to align the minimum credit hour requirement (i.e., 80 semester credit hours) with the minimum now set by the Graduate School. A credit hour requirement higher than this value has become increasingly difficult for students to achieve, given the 3 credit-hour limit on enrollment after a student passes the Ph.D. candidacy exam. In addition, specific course requirements within the semester-version of the Ph.D. have been reduced significantly from those in the quarter-version because: 1) the decreased number of faculty supporting the Geodetic Science program cannot regularly offer all of the courses that were required under quarters; 2) the decreased number of faculty supporting the Geodetic Science program do not have the expertise to offer all of the courses included in the quarter-version of the program; and 3) the increase in elective hours will allow students to use appropriate courses offered by other Divisions within SES.

The details of these conversions are included in the appropriate program templates and proposals. Please contact us if you have any questions.

Thank you for your attention to these proposals.

W. Berry Lyons
Professor and Director
School of Earth Sciences

Lawrence Krissek
Professor and Associate Director for Administration
School of Earth Sciences
July 25, 2011

Dena Myers
Graduate School
250 University Hall
230 North Oval Mall
Campus

Dear Dena:

It is a pleasure to forward to you for your consideration the proposal for the Masters program in Earth Sciences. The School of Earth Sciences is requesting that the name of the program be changed from Geological Sciences to Earth Sciences to better align with the name of the school and the nature of the program itself. The program has been revised from its quarter version mainly through a reduction in credit hours, and through clarification of the core requirements.

Beyond my own review of the documents, the proposal has been discussed by colleagues from other NMS units at meetings on July 22, 2011. Feedback from these discussions has been incorporated in the proposal.

If you have any questions, I would be happy to address them.

Sincerely,

David Andereck
Professor of Physics
Associate Dean of Natural and Mathematical Sciences, College of Arts and Sciences
**Program Request**

**Earth Sciences**

**Fiscal Unit/Academic Org**
School of Earth Sciences - D0056

**Administering College/Academic Group**
Mathematical And Physical Sci

**Co-administering College/Academic Group**

**Semester Conversion Designation**
Re-envisioned with significant changes to program goals and/or curriculum requirements (e.g., degree/major name changes, changes in program goals, changes in core requirements, structural changes to tracks/options/courses)

**Current Program/Plan Name**
Geological Sciences

**Proposed Program/Plan Name**
Earth Sciences

**Program/Plan Code Abbreviation**
GEOLSCI-MS

**Current Degree Title**
Master of Science

### Credit Hour Explanation

<table>
<thead>
<tr>
<th>Program credit hour requirements</th>
<th>A) Number of credit hours in current program (Quarter credit hours)</th>
<th>B) Calculated result for 2/3rd of current (Semester credit hours)</th>
<th>C) Number of credit hours required for proposed program (Semester credit hours)</th>
<th>D) Change in credit hours</th>
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### Program Learning Goals

Note: these are required for all undergraduate degree programs and majors now, and will be required for all graduate and professional degree programs in 2012. Nonetheless, all programs are encouraged to complete these now.

**Program Learning Goals**

* 

### Assessment

Assessment plan includes student learning goals, how those goals are evaluated, and how the information collected is used to improve student learning. An assessment plan is required for undergraduate majors and degrees. Graduate and professional degree programs are encouraged to complete this now, but will not be required to do so until 2012.

**Is this a degree program (undergraduate, graduate, or professional) or major proposal?** Yes

**Does the degree program or major have an assessment plan on file with the university Office of Academic Affairs?** No

### Program Specializations/Sub-Plans

If you do not specify a program specialization/sub-plan it will be assumed you are submitting this program for all program specializations/sub-plans.

**Program Specialization/Sub-Plan Name**
Thesis Option ("Plan A") (Existing)

**Program Specialization/Sub-Plan Goals**

* 

**Program Specialization/Sub-Plan Name**
Non-Thesis Option ("Plan B") (Existing)

**Program Specialization/Sub-Plan Goals**

*
Pre-Major

Does this Program have a Pre-Major? No

Attachments

- Earth_Sciences_M.S._attachment_2_revised 24 July.doc: Earth Sci M.S. program proposal
  (Program Proposal. Owner: Krissek, Lawrence Alan)

- Earth Sciences MS cover letter.doc: NMS Division of Arts and Sciences cover letter
  (Letter from the College to OAA. Owner: Anderson, Claude David)

Comments

Workflow Information

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</table>
July 25, 2011

Dena Myers
Graduate School
250 University Hall
230 North Oval Mall
Campus

Dear Dena:

It is a pleasure to forward to you for your consideration the proposal for the doctoral program in Earth Sciences. The School of Earth Sciences is requesting that the name of the program be changed from Geological Sciences to Earth Sciences to better align with the name of the school and the nature of the program itself. The program has been revised from its quarter version mainly through a reduction in credit hours, to better align with the goal of completing the candidacy exam in a timely fashion and the three credit hour post-candidacy policy.

Beyond my own review of the documents, the proposal has been discussed by colleagues from other NMS units at meetings on July 22, 2011. Feedback from these discussions has been incorporated in the proposal.

If you have any questions, I would be happy to address them.

Sincerely,

David Andereck
Professor of Physics
Associate Dean of Natural and Mathematical Sciences, College of Arts and Sciences
Program Request
Earth Sciences Ph.D.

Fiscal Unit/Academic Org: School of Earth Sciences - D0656
Administering College/Academic Group: Mathematical And Physical Sci
Co-administering College/Academic Group: Re-envisioned with significant changes to program goals and/or curricular requirements (e.g., degree/major name changes, changes in program goals, changes in core requirements, structural changes to tracks/options/courses)

Current Program/Plan Name: Geological Sciences
Proposed Program/Plan Name: Earth Sciences Ph.D.
Program/Plan Code Abbreviation: GEOLSCI-PH
Current Degree Title: Doctor of Philosophy

Credit Hour Explanation

<table>
<thead>
<tr>
<th>Program credit hour requirements</th>
<th>A) Number of credit hours in current program (Quarter credit hours)</th>
<th>B) Calculated result for 2/3rds of current (Semester credit hours)</th>
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<th>D) Change in credit hours</th>
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<tr>
<td>Total minimum credit hours required for completion of program</td>
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Explain any change in credit hours if the difference is more than 4 semester credit hours between the values listed in columns B and C for any row in the above table.

Total credit hours required are reduced to match minimum requirement of Graduate School; also reduced to minimize obstacle to student-progress-toward-degree arising from 3 credit limit on enrollment after passing Ph.D. Candidacy Exam.

Program Learning Goals

Note: these are required for all undergraduate degree programs and majors now, and will be required for all graduate and professional degree programs in 2012. Nonetheless, all programs are encouraged to complete these now.

Program Learning Goals

Assessment

Assessment plan includes student learning goals, how those goals are evaluated, and how the information collected is used to improve student learning. An assessment plan is required for undergraduate majors and degrees. Graduate and professional degree programs are encouraged to complete this now, but will not be required to do so until 2012.

Is this a degree program (undergraduate, graduate, or professional) or major proposal? Yes
Does the degree program or major have an assessment plan on file with the university Office of Academic Affairs? No

Program Specializations/Sub-Plans

If you do not specify a program specialization/sub-plan it will be assumed you are submitting this program for all program specializations/sub-plans.
Pre-Major

Does this Program have a Pre-Major? No

Attachments

* Earth_Sciences_Ph.D._attachment_2_revised 24 July.doc: Earth Sci Ph.D. program proposal
  (Program Proposal. Owner: Kriseke, Lawrence Alan)

* Earth Sciences PhD cover letter.doc: NMS Division of Arts and Sciences cover letter
  (Letter from the College to OAA. Owner: Andereck, Claude David)

Comments

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