THE OHIO STATE UNIVERSITY

College of Engineering

122 Hitchcock Hall
2070 Neil Avenue
Columbus, OH 43210-1278
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Date: 26 October 2010

To: Randy Smith
Vice Provost, Office of Academic Affairs

From: Ed McCaul
Secretary, College of Engineering Committee on Academy Affairs (CCAA)

Subject: Semester Conversion Proposal for the BS/MS, MS, and PhD Degrees in Civil Engineering

Attached is a letter from Carolyn Merry, Department Chair of Civil and Environmental Engineering and Geodetic Science as well as semester conversion proposals for their BS/MS, MS, and PhD Degree programs in Civil Engineering.

These proposals were reviewed by a subcommittee of CCAA. After reviewing the proposals and having some changes made to them the subcommittee recommended to the full committee that they be approved. After a discussion, CCAA unanimously approved the proposals on the 25th of October 2010 and requested that I forward the proposals to you for consideration by CAA. If you have any questions concerning these proposals please let me know.

THE OHIO STATE UNIVERSITY

Civil and Environmental Engineering and Geodetic Science

470 Hitchcock Hall
2070 Neil Avenue
Columbus, OH 43210-1275

Phone (614) 292-2771
Fax (614) 292-3780

To: Office of Academic Affairs

From: Carolyn Merry, Chair, Department of Civil and Environmental Engineering and Geodetic Science

Date: October 1, 2010

Re: Semester Proposal for Department of Civil and Environmental Engineering and Geodetic Science

Academic Programs and Approvals

The Department of Civil and Environmental Engineering and Geodetic Science submits semester conversion proposals for the academic programs listed below. All of the program proposals received strong support by the faculty (votes and date of vote provided in parentheses) and I, as Department Chair, support the approval of these semester conversion proposals as well.

B.S. Civil Engineering (11 yes, 1 no; 0 abstain; April 2, 2010)
B.S. Environmental Engineering (13 yes; 0 no; 0 abstain; April 2, 2010)
B.S. Geomatics Engineering (withdrawn-9 yes; 0 no; 1 abstain)
Minor Environmental Engineering (11 yes; 0 no; 0 abstain, April 16, 2010)
Minor Surveying and Mapping (15 yes; 0 no; 0 abstain, May 14, 2010)
M.S. Civil Engineering (15 yes; 0 no; 0 abstain, May 14, 2010)
Ph.D. Civil Engineering (13 yes; 2 no; 0 abstain, May 14, 2010)
Civil Engineer Degree (withdrawn; 8 yes; 1 no; 0 abstain, April 23, 2010)

Students pursuing a combined BS/MS program must follow all college and university rules. The department will allow up to 8 hours of independent research applied toward the BSCE or BS Environmental Engineering degree, provided at least 6 credit hours of courses normally applicable toward professional elective requirements are senior petitioned toward the MS degree.

The department is withdrawing the B.S. Geomatics Engineering degree. The B.S. Geomatics degree is currently in the process of being de-activated due to lack of enrollment. We expect the few remaining students in the program to matriculate through the program prior to Summer, 2012. The department is also withdrawing the "Civil Engineer" degree administered by the College of Engineering due to lack of enrollment. There are currently no students in this program.

Semester Proposal Process

The development of the semester conversion proposals for the academic programs in the Department of Civil and Environmental Engineering and Geodetic Science were carried out by the Undergraduate and Graduate Studies Committees in the Department. In revising the curriculum, the committees considered such things as: (a) the success of our graduates in their

professional careers, especially as indicated by the results on the Fundamentals of Engineering (FE) Exam, Principles and Practice (PE) exam, and job placement; (b) the need to continue to fulfill Accreditation Board for Engineering and Technology (ABET) general and program criteria for our undergraduate degree programs, and be responsive to comments made during recent accreditation visits by ABET; (c) various measures of achievement of educational outcomes and program objectives as part of the department's on-going efforts in outcomes assessment; (d) educational goals as expressed in: American Society of Civil Engineers (ASCE) Statement 465, ASCE Civil Engineering Body of Knowledge for the 21st Century, ASCE Code of Ethics, 2006 ASCE Summit on the Future of Civil Engineering, American Academy of Environmental Engineers Body of Knowledge, recent National Academy studies and publications, (e) The Ohio State University, College of Engineering, and Civil and Environmental Engineering and Geodetic Science strategic plans and budgetary constraints; (f) faculty and other resources; (g) and similar programs at other universities.

The department began serious discussions of the revised curricula in Spring of 2009 and continued through Spring of 2010. A department website was set up on Carmen as a storehouse for information and discussion topics on the semester conversion process and the department's various semester conversion proposals. The department also appointed a person (Chair of Undergraduate Studies) to serve as a point of contact for the semester conversion and to sit on the College of Engineering Quarters-to-Semesters (Q2S) Taskforce.

In addition to faculty input, the committees also solicited feedback from current students through the OSU student chapter of the American Society of Civil Engineers (ASCE), student chapter of the Water Environmental Federation (WEA), the Civil Engineering Honor Society (Chi Epsilon), the student chapter of the American Academy of Environmental Engineers, and targeted requests from specific students. Input from past graduates was obtained from the Civil Engineering Alumni Association, which serves as our "Industrial Advisory Committee." The Undergraduate and Graduate Studies Committees then developed academic program proposals and proposal revisions, based on the feedback received. Individual faculty were then charged with developing specific course syllabi. Syllabi were subsequently reviewed by the Undergraduate and Graduate Studies Committees, Department Chair, and College of Engineering Committee on Academic Affairs. The department had extensive discussions for each proposal that culminated in a faculty vote.

Once approved at the department level, proposals were submitted to the College of Engineering Committee on Academic Affairs (CCAA) for review and College-level approval. Our proposals were reviewed in CCAA subcommittee A. We then worked with the subcommittee to address all concerns and suggestions. Our proposals were then brought to the full committee (CCAA), with the recommendation of the subcommittee, for a vote.

Sincerely,

Carolyn Merry
Professor and Chair

Program Proposal: MS in Civil Engineering

GENERAL PROGRAM INFORMATION

1. Identify the name of the program (current and proposed names, if different)

Civil Engineering

2. Identify the degree title (current and proposed names, if different)

Master of Science in Civil Engineering

3. Identify the academic unit(s) responsible for administrating the program

Department of Civil and Environmental Engineering and Geodetic Science

4. Specify the type of program

Graduate degree program

5. Select the appropriate semester conversion designation

Converted with minimal changes to program goals and/or curricular requirements

PROGRAM REQUIREMENTS

6. List program learning goals

Program Learning Goals

The objective of the M.S. Civil Engineering program is to offer our students an enriching intellectual environment enhanced by unique research experiences in state-of-the-art laboratory, computational, and experimental testing facilities. We provide a challenging environment designed to provide our students with resources to pursue their goals and interests in various areas of civil, environmental and geodetic engineering. The program is designed to prepare graduates for careers in teaching, research or professional practice in Civil Engineering, Environmental Engineering and Geodetic Engineering.

7. List the semester courses (department, title, credit hours) that constitute the requirements and other components of the program.

There are no required courses in the M.S. program. Students select an area of specialization and develop an individualized plan of study in consultation with their academic advisor and committee members. Each area of specialization develops its own minimum requirements, following review and approval by the Graduate Studies Committee, and published annually in the Civil Engineering Graduate Handbook. Areas of specialization include construction engineering and management, geotechnical and materials engineering, geoinformation and geodetic engineering, structural engineering, transportation engineering, water resources and environmental engineering.

A total of 30 credit hours are required to complete the thesis-based M.S. program in Civil Engineering. A total of 33 credit hours are required to complete the non-thesis-based M.S. program. A minimum of 6 hours of "advanced" coursework are to be selected from a Graduate Studies Committee-approved "Table A" listing for the area of specialization. An additional 6 credit hours of "breadth" coursework are to be selected from a Graduate Studies Committee-approved "Table B" listing for the area of specialization. Table A credit hours in excess of the required minimum may also be applied toward the Table B requirement. A minimum of 3 credit hours of approved mathematics are required. A minimum of 6 credit hours of thesis research is required for the thesis option. The balance of the 30 credit hours for the thesis-option, and 33 credit hours for the non-thesis option, is to be met from graduate level courses approved by the student's advisory committee.

8. Append a current (quarter-based) and proposed (semester-based) curriculum advising sheet for the program, formatted to meet the unit's standards.

See Appendix A for a current (quarter-based) MS advising sheet and Appendix B for the proposed (semester-based) MS advising sheet. Appendix C provides a preliminary list of Table A and Table B courses to be offered by the department in the semester format. We anticipate developing additional courses prior to Summer Semester, 2012. Also, select courses from other departments will also be added to Table A and Table B, as is the current practice. However, courses outside the College of Engineering were not yet available at the time of this proposal submission. It should also be noted that areas of specialization within the graduate program may develop more refined lists of Table A and Table B courses by including only a subset of the courses listed in Appendix C.

9. Provide a curriculum map that shows how, and at what level (e.g., beginning, intermediate, advanced), the program's courses facilitate students' attainment of program learning goals. A table format is recommended.

Not applicable to the Graduate Program.

10. Provide a rationale for proposed program changes (either significant or minimal) and a description of how the changes will benefit students and enhance program quality. Include date of last significant program revision. [Word limit: 750]

No changes are proposed to the Civil Engineering MS program other than a translation of credit hour requirements. The last significant program revision took place in 2009 in which the "geoinformation and geodetic engineering" area of specialization was added to the program.

11. Provide a table to aid the Council on Academic Affairs reviewers as they check for credit hour changes.

	Number of qtr-cr-hrs in current program	Calculated result for 2/3 of current qtr-cr-hrs	Number of sem-cr-hrs required for proposed program
Total cr-hrs required for completion of program	45 (thesis) 50 (non-thesis)	30 (thesis) 33.3 (non thesis)	30 (thesis) 33 (non thesis)
Pre-requisite cr-hrs required for admission to program which are not counted toward total hrs	0	0	0
Required cr-hrs offered by the unit	0	0	0
Required cr-hrs offered outside the unit	0	0	0

12. Provide a rationale for a 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 table above. [Word limit: 500]

No difference in credit hours is being proposed.

TRANSITION POLICY

13. Include a policy statement from the chair of the department / unit that assures those students who began their degree under quarters that the transition to semesters will not delay their graduation nor disrupt progress toward a degree. This may include a description of how individual transition advising plans will be developed and possible use of bridge courses. It should address students in the program and students taking service courses offered by the department / unit.

"No M.S. Civil Engineering student who began their degree program under quarters will have progress toward graduation impeded by the transition to semesters. Graduation requirements beginning Summer 2012 will be those in force for Civil Engineering M.S. program under semesters; but every quarter-credit-hour that would have counted toward the M.S. Civil Engineering degree under the quarter-based curriculum will count (as 2/3 of a semester-credit-

hour) toward the requirements for graduation under the semester-based Civil Engineering M.S. curriculum.

- Carolyn Merry, Chair of Civil and Environmental Engineering and Geodetic Science

The overarching objective of our transition policy is to ensure that student progress toward graduation will not be impeded by the conversion process. As in all previous curriculum changes, transition issues will be anticipated and planned for as a part of the conversion process. Our transition policy is based on the following principles:

- All students who graduate under semesters, even during the first semester, will do so by meeting the requirements of the semester program.
- Each semester program requirement may be met either by taking an appropriate semester course (or sequence), or by substituting a substantially equivalent quarter course (or sequence) for the corresponding semester course (or sequence).
- Excess equivalent credit-hours resulting from such substitutions—either positive or negative—will be credited against the balance of credits required for the degree.

ASSESSMENT CONVERSION

14. Summarize how the program's current quarter-based assessment practices will be modified, if necessary, to fit the semester calendar [Word limit: 150]. ***(Note: For example, if there are embedded assessments in selected courses, a modified assessment plan may identify the new semester courses which will include testing student attainment of program goals.)*** **All undergraduate degrees and majors should have an assessment plan on file with the Office of Academic Affairs; preliminary assessment planning (item #15.b. i through iii) is encouraged for all other programs.**

We do not envision any modifications to the assessment practices presently in place and being developed for the quarter-based system.

15. Indicate, for an undergraduate degree program or major proposal, whether the program has a plan on file with the Office of Academic Affairs

Not applicable to the graduate program.

Appendix A
Current (quarter-based) M.S. Advising Sheet

STUDY PLAN FOR MS IN CIVIL ENGINEERING

(Please type or print neatly)

STUDENT:_____ **SPECIALIZATION:**_____

COURSEWORK (Place * beside any course not taken at OSU-petition required):

Course No.	**Course Title**	**Final Grade**	**Hours**

Table A (800 level, must total at least **10** hours)

		Table A Total	

Table B (including excess from Table A, must total at least **10** hours):

		Table B Total:	

Math (must be at least **5** hours):_____

		Math Total:	

Balance (graduate level courses approved by student's advisory committee):

Total Course Hours (must be at least **36** [thesis option] or **50**[non-thesis option]: _____
Form 8, 15.1.1

(Please type or print neatly)

Have you met the residency requirement (see Graduate School Handbook, section 8.5)?

Check One:

☐ Thesis Option (Tentative research thesis title-**Required**)

_____

_____

☐ Non-Thesis Option (This option requires a written exam of at least 4 hours).

If selecting the non-thesis option, have you ever held a GRA appointment at OSU?

☐ Yes ☐ No

Advisory Committee Approval* (at least 3 are required, with at least 2 from Civil Engineering)

Signature	Department (if not CE)
_____	CE Department Advisor
_____	
_____	
_____	
_____	Chair, Graduate Studies Committee

Date: _____

Appendix B
Proposed (semester-based) MS Advising Sheet

STUDY PLAN FOR MS IN CIVIL ENGINEERING

(*Please type or print neatly)*

STUDENT:_____ **SPECIALIZATION:**_____

COURSEWORK (Place * beside any course not taken at OSU-petition required):

Course No.	Course Title	Final Grade	Hours
Table A (must total at least **6** hours)			
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
		Table A Total	_____
Table B (including excess from Table A, must total at least **6** hours):			
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
		Table B Total:	_____
Math (must be at least **3** hours):_____			
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
		Math Total:	_____
Balance (graduate level courses approved by student's advisory committee):			
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

_____ _____ _____ _____

_____ _____ _____ _____

Total Course Hours (must be at least **24** [thesis option] or **33**[non-thesis option]): _____

Note: MS thesis students must take an additional 6 credit hours of thesis research.

Form 8, 15.1.1

(*Please type or print neatly)*

Have you met the residency requirement (see Graduate School Handbook, section 8.5)?

Check One:

☐ Thesis Option (Tentative research thesis title-**Required**)

_____

_____

☐ Non-Thesis Option (This option requires a written exam of at least 4 hours).

If selecting the non-thesis option, have you ever held a GRA appointment at OSU?

☐ Yes ☐ No

Advisory Committee Approval* (at least 3 are required, with at least 2 from Civil Engineering)

Signature	Department (if not CE)
_____	CE Department Advisor
_____	
_____	
_____	
_____	Chair, Graduate Studies Committee

Date: _____

Appendix C

TABLE A

CIVILEN	7350 Advanced Reinforced Concrete
CIVILEN	7432 Advanced spatial data structures and databases
CIVILEN	7433 GIS analysis and projects
CIVILEN	7442 Fundamentals of GPS and reference systems
CIVILEN	7452 Spatial geometry and spectral analysis
CIVILEN	7453 Photogrammetric computer vision
CIVILEN	7730 Transportation Demand Modeling
CIVILEN	7740 Urban Transportation Network Analysis
CIVILEN	7760 Transportation Management Systems
CIVILEN	7770 Infrastructure Systems Analysis
CIVILEN	7790 Transportation Practicum
CIVILEN	7830 Earthquake Engineering
CIVILEN	7832 Advanced Behavior and Design of Metal Structures
CIVILEN	8193 Individual Studies in Civil Engineering
CIVILEN	8194 Group Studies in Civil Engineering
CIVILEN	8420 Radiometric measurements and modeling
CIVILEN	8434 Advanced planetary mapping and exploration
CIVILEN	8443 Advanced topics in GPS
CIVILEN	8454 Videogrammetry
CIVILEN	8461 Advanced geospatial numerical analysis
CIVILEN	8462 Advanced geospatial sensors and methods

TABLE B

CIVILEN	5001 Fundamentals of Geographic Information Systems
CIVILEN	
ENVENG	5130 Applied Hydrology
CIVILEN	5162 Introduction to Laminated Composite Materials
CIVILEN	5194 Group Studies in Civil Engineering
CIVILEN	
ENVENG	5230 Transport Phenomena in Water Resources Engineering
CIVILEN	5310 Matrix Structural Analysis
CIVILEN	5320 Intermediate Structural Steel Design
CIVILEN	5350 Intermediate Reinforced Concrete Design
CIVILEN	5360 Bridge Engineering
CIVILEN	5370 Prestressed Concrete Design
CIVILEN	5390 Knowledge-Based Systems in Engineering
CIVILEN	5410 Engineering Surveying
CIVILEN	5411 Legal Aspects of Surveying
CIVILEN	5412 Land Boundary & Development Principles
CIVILEN	5420 Remote Sensing of Environment
CIVILEN	5421 Spatial Analysis Techniques for Civil Engineering
CIVILEN	5431 GIS and cartographic engineering
CIVILEN	5441 Introduction to GPS: Theory and Applications
CIVILEN	5461 Geospatial numerical analysis
CIVILEN	5680 Introduction to the Finite Element Method
CIVILEN	6193 Individual Studies in Civil Engineering
CIVILEN	6194 Group Studies in Civil Engineering
CE/ENE	6230 Numerical Models in Water Resources Engineering
CIVILEN	6700 Urban Transportation Demand Forecasting
CIVILEN	6720 Transportation Engineering Data Collection Studies
CIVILEN	6730 Highway Location and Design
CIVILEN	6740 Design and Operation of Road Traffic Facilities
CIVILEN	6750 Instrumentation, signals, and control in transportation applications
CIVILEN	6760 Network metrics and control in transportation systems
CIVILEN	6770 Urban Public Transportation
CIVILEN	6790.01 Seminar in Transportation Engineering and Planning
CIVILEN	6790.02 Graduate Student Seminar in Transportation Engineering and Planning
CIVILEN	6810 Construction Intelligent System and Simulation
CIVILEN	6820 Construction Student Seminar

Program Proposal: Civil Engineering

GENERAL PROGRAM INFORMATION

1. Identify the name of the program (current and proposed names, if different)

PhD in Civil Engineering

2. Identify the degree title (current and proposed names, if different)

Doctoral of Philosophy in Civil Engineering

3. Identify the academic unit(s) responsible for administrating the program

Department of Civil and Environmental Engineering and Geodetic Science

4. Specify the type of program

Graduate degree program

5. Select the appropriate semester conversion designation

Converted with minimal changes to program goals and/or curricular requirements

PROGRAM REQUIREMENTS

6. List program learning goals

Program Learning Goals

The objective of the Civil Engineering Doctoral program is to offer our students an enriching intellectual environment enhanced by unique research experiences in state-of-the-art laboratory, computational, and experimental testing facilities. We provide a challenging environment designed to provide our students with resources to pursue their goals and interests in various areas of civil, environmental and geodetic engineering. The program is designed to prepare graduates for careers in teaching, research or professional practice in Civil Engineering, Environmental Engineering and Geodetic Engineering.

7. List the semester courses (department, title, credit hours) that constitute the requirements and other components of the program.

There are no required courses in the PhD program. Students select an area of specialization and develop an individualized plan of study in consultation with their academic advisor and committee members. Each area of specialization develops its own minimum requirements, following review and approval by the Graduate Studies Committee, and published annually in the Civil Engineering Graduate Handbook. Areas of specialization include construction engineering and management, geotechnical and materials engineering, geoinformation and geodetic engineering, structural engineering, transportation engineering, water resources and environmental engineering.

A total of 90 credit hours (post-MS) are required to complete the semester-based PhD program in Civil Engineering. A total of 60 credit hours of coursework are required. A minimum of 16 hours of "advanced" coursework are to be selected from a Graduate Studies Committee-approved "Table A" listing for the area of specialization. An additional 10 credit hours of "breadth" coursework are to be selected from a Graduate Studies Committee-approved "Table B" listing for the area of specialization. Table A credit hours in excess of the required minimum may also be applied toward the Table B requirement. A student who has completed an MS degree may petition to apply up to 24 hours of coursework, and 6 hours of research hours toward their PhD program. The balance of the 60 credit hours of course work is to be met from graduate level courses approved by the student's advisory committee and the Civil Engineering Graduate Studies Committee. A minimum of 30 credit hours of dissertation research is required.

8. Append a current (quarter-based) and proposed (semester-based) curriculum advising sheet for the program, formatted to meet the unit's standards.

See Appendix A for a current (quarter-based) PhD advising sheet and Appendix B for the proposed (semester-based) PhD advising sheet. Appendix C provides a preliminary list of Table A and Table B courses to be offered by the department in the semester format. We anticipate developing additional courses prior to Summer Semester, 2012. Also, select courses from other departments will also be added to Table A and Table B, as is the current practice. However, courses outside the College of Engineering were not yet available at the time of this proposal submission. It should also be noted that areas of specialization within the graduate program may develop more refined lists of Table A and Table B courses by including only a subset of the courses listed in Appendix C.

9. Provide a curriculum map that shows how, and at what level (e.g., beginning, intermediate, advanced), the program's courses facilitate students' attainment of program learning goals. A table format is recommended.

Not applicable to the Graduate Program.

10. Provide a rationale for proposed program changes (either significant or minimal) and a description of how the changes will benefit students and enhance program quality. Include date of last significant program revision. [Word limit: 750]

No changes are proposed to the Civil Engineering PhD program other than a translation of credit hour requirements. The last significant program revision took place in 2009 in which the "geoinformation and geodetic engineering" area of specialization was added to the program.

11. Provide a table to aid the Council on Academic Affairs reviewers as they check for credit hour changes.

	Number of qtr-cr-hrs in current program	Calculated result for 2/3 of current qtr-cr-hrs	Number of sem-cr-hrs required for proposed program
Total cr-hrs required for completion of program	135	90	90
Pre-requisite cr-hrs required for admission to program which are not counted toward total hrs	0	0	0
Required cr-hrs offered by the unit	0	0	0
Required cr-hrs offered outside the unit	0	0	0

12. Provide a rationale for a 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 table above. [Word limit: 500]

No difference in credit hours is being proposed.

TRANSITION POLICY

13. Include a policy statement from the chair of the department / unit that assures those students who began their degree under quarters that the transition to semesters will not delay their graduation nor disrupt progress toward a degree. This may include a description of how individual transition advising plans will be developed and possible use of bridge courses. It should address students in the program and students taking service courses offered by the department / unit.

"No Ph.D. Civil Engineering student who began their degree program under quarters will have progress toward graduation impeded by the transition to semesters. Graduation requirements beginning Summer 2012 will be those in force for Civil Engineering PhD program under semesters; but every quarter-credit-hour that would have counted toward the Ph.D. Civil Engineering degree under the quarter-based curriculum will count (as 2/3 of a semester-credit-

hour) toward the requirements for graduation under the semester-based Civil Engineering PhD curriculum.

- Carolyn Merry, Chair of Civil and Environmental Engineering and Geodetic Science

The overarching objective of our transition policy is to ensure that student progress toward graduation will not be impeded by the conversion process. As in all previous curriculum changes, transition issues will be anticipated and planned for as a part of the conversion process. Our transition policy is based on the following principles:

- All students who graduate under semesters, even during the first semester, will do so by meeting the requirements of the semester program.
- Each semester program requirement may be met either by taking an appropriate semester course (or sequence), or by substituting a substantially equivalent quarter course (or sequence) for the corresponding semester course (or sequence).
- Excess equivalent credit-hours resulting from such substitutions—either positive or negative—will be credited against the balance of credits required for the degree.

ASSESSMENT CONVERSION

14. Summarize how the program's current quarter-based assessment practices will be modified, if necessary, to fit the semester calendar [Word limit: 150]. ***(Note: For example, if there are embedded assessments in selected courses, a modified assessment plan may identify the new semester courses which will include testing student attainment of program goals.)*** **All undergraduate degrees and majors should have an assessment plan on file with the Office of Academic Affairs; preliminary assessment planning (item #15.b. i through iii) is encouraged for all other programs.**

We do not envision any modifications to the assessment practices presently in place and being developed for the quarter-based system.

15. Indicate, for an undergraduate degree program or major proposal, whether the program has a plan on file with the Office of Academic Affairs

Not applicable to the graduate program.

Appendix A

Current (quarter-based) PhD Advising Sheet

STUDY PLAN FOR PH.D. IN CIVIL ENGINEERING

(please type or print clearly)

STUDENT_____ **SPECIALIZATION** _____

Tentative Dissertation Topic: _____

Place * beside any course not taken at OSU-transfer credit petition required

Place ** beside any MS hours petitioned under Graduate School Rule 6.7.2 to be counted toward fulfilling the **90** credit hours required to be taken post-MS

CSE NO.	COURSE TITLE	FINAL GRADE	Credit Hours Taken in MS Prog.	Credit Hours Taken in Post-MS
Table A (must total at least 24 hours)				
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
	Total Table A = _____			
Table B (with excess from Table A, must be at least 16 hours)				
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
	Total Table B = _____			

CSE NO.	COURSE TITLE	FINAL GRADE	Credit Hours Taken in MS Prog.	Post-MS
Minor (must total at least 20 hours)				
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
	Total Minor = _____			
Balance (do not list 999 hours)				
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
	Total Balance = _____			
	MS Thesis Total =		9	XXXX
	MS Course Total =		36	XXXX
	Post.MS Courses Program Total =		XXXX	
	Dissertation Total =		XXXX	45 (at least)
	Final Program Total =		_____ (at least 135 hours)	

Advisory Committee Approval* (at least three members of the Advisory Committee must be from Civil Engineering, unless invoking Rule 6.10.5.C1 (second minor)).

Signature

_____ **ADVISOR**

_____

_____ **Minor**

_____ _____

CHAIR (Graduate Studies Committee) **Date**

Appendix B
Proposed (semester-based) PhD Advising Sheet

STUDY PLAN FOR PH.D. IN CIVIL ENGINEERING

(please type or print clearly)

STUDENT_____ **SPECIALIZATION** _____

Tentative Dissertation Topic: _____

Place * beside any course not taken at OSU-transfer credit petition required

Place ** beside any MS hours petitioned under Graduate School Rule 6.7.2 to be counted toward fulfilling the **60** semester credit hours required to be taken post-MS

CSE NO.	COURSE TITLE	FINAL GRADE	Credit Hours Taken in MS Prog.	Credit Hours Taken in Post-MS
Table A (must total at least 16 hours)				
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
	Total Table A = _____			
Table B (with excess from Table A, must be at least 10 hours)				
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
	Total Table B = _____			

CSE NO.	COURSE TITLE	FINAL GRADE	Credit Hours Taken in MS Prog.	Post-MS
Balance (do not list research hours)				
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		
	Total Balance =	_____		
	MS Thesis Total =		6	XXXX
	MS Course Total =		24	XXXX
	Post.MS Courses Program Total =		XXXX	
	Dissertation Total =		XXXX	30 (at least)
	Final Program Total =		_____ (at least 90 hours)	

Advisory Committee Approval* (at least three members of the Advisory Committee must be from Civil Engineering, unless invoking Rule 6.10.5.C1 (second minor)).

Signature

_____ **ADVISOR**

_____

_____

_____ _____

CHAIR (Graduate Studies Committee) **Date**

Appendix C

TABLE A

CIVILEN	7350 Advanced Reinforced Concrete
CIVILEN	7432 Advanced spatial data structures and databases
CIVILEN	7433 GIS analysis and projects
CIVILEN	7442 Fundamentals of GPS and reference systems
CIVILEN	7452 Spatial geometry and spectral analysis
CIVILEN	7453 Photogrammetric computer vision
CIVILEN	7730 Transportation Demand Modeling
CIVILEN	7740 Urban Transportation Network Analysis
CIVILEN	7760 Transportation Management Systems
CIVILEN	7770 Infrastructure Systems Analysis
CIVILEN	7790 Transportation Practicum
CIVILEN	7830 Earthquake Engineering
CIVILEN	7832 Advanced Behavior and Design of Metal Structures
CIVILEN	8193 Individual Studies in Civil Engineering
CIVILEN	8194 Group Studies in Civil Engineering
CIVILEN	8420 Radiometric measurements and modeling
CIVILEN	8434 Advanced planetary mapping and exploration
CIVILEN	8443 Advanced topics in GPS
CIVILEN	8454 Videogrammetry
CIVILEN	8461 Advanced geospatial numerical analysis
CIVILEN	8462 Advanced geospatial sensors and methods

TABLE B

CIVILEN	5001 Fundamentals of Geographic Information Systems
CIVILEN	
ENVENG	5130 Applied Hydrology
CIVILEN	5162 Introduction to Laminated Composite Materials
CIVILEN	5194 Group Studies in Civil Engineering
CIVILEN	
ENVENG	5230 Transport Phenomena in Water Resources Engineering
CIVILEN	5310 Matrix Structural Analysis
CIVILEN	5320 Intermediate Structural Steel Design
CIVILEN	5350 Intermediate Reinforced Concrete Design
CIVILEN	5360 Bridge Engineering
CIVILEN	5370 Prestressed Concrete Design
CIVILEN	5390 Knowledge-Based Systems in Engineering
CIVILEN	5410 Engineering Surveying
CIVILEN	5411 Legal Aspects of Surveying
CIVILEN	5412 Land Boundary & Development Principles
CIVILEN	5420 Remote Sensing of Environment
CIVILEN	5421 Spatial Analysis Techniques for Civil Engineering
CIVILEN	5431 GIS and cartographic engineering
CIVILEN	5441 Introduction to GPS: Theory and Applications
CIVILEN	5461 Geospatial numerical analysis
CIVILEN	5680 Introduction to the Finite Element Method
CIVILEN	6193 Individual Studies in Civil Engineering
CIVILEN	6194 Group Studies in Civil Engineering
CE/ENE	6230 Numerical Models in Water Resources Engineering
CIVILEN	6700 Urban Transportation Demand Forecasting
CIVILEN	6720 Transportation Engineering Data Collection Studies
CIVILEN	6730 Highway Location and Design
CIVILEN	6740 Design and Operation of Road Traffic Facilities
CIVILEN	6750 Instrumentation, signals, and control in transportation applications
CIVILEN	6760 Network metrics and control in transportation systems
CIVILEN	6770 Urban Public Transportation
CIVILEN	6790.01 Seminar in Transportation Engineering and Planning
CIVILEN	6790.02 Graduate Student Seminar in Transportation Engineering and Planning
CIVILEN	6810 Construction Intelligent System and Simulation
CIVILEN	6820 Construction Student Seminar