

Department of Civil and Architectural Engineering

Policies for Taking Graduate Level Classes as BSCE Students and Double-Dipping Classes into the MSCE/MCEM program

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Introduction:

This document summarizes the academic procedures associated with taking graduate level classes as a senior level student and “double-dipping” them if applicable into either the Master of Science in Civil Engineering (MSCE) program or the Master of Construction Engineering Management (MCEM) program.

Per new university policies and as stated in the undergraduate and graduate catalogs, “a student may take up to 9 credits at the 4000, 5000, 6000 or 7000 level that can be applied to both their undergraduate degree and their LTU graduate degree. The double dipped course(s) will appear on the transcript as transfer credit and includes the final grade received in the course(s). The grade will impact the grade point average on both the undergraduate and graduate level transcripts.”

The department has partially adopted these new policies for their own programs and have more specific policies for the BSCE, MSCE, and MCEM programs as discussed in this document.

Graduate Courses taken at the Senior Level:

- Qualified BSCE senior students are allowed to replace 3 technical electives (9 credits) with 5000 level graduate courses offered by the Department of Civil & Architectural Engineering. BSCE students must ensure that a minimum of one technical elective is taken within environmental engineering, geotechnical engineering, or transportation engineering, whether taken at the 4000 level or 5000 level.
- Senior students with >3.0 GPA may **obtain the necessary overrides from their academic advisors** or from the respective course coordinators.
- Senior students with <3.0 GPA must **obtain permission from the instructor/course coordinator and the academic advisor.**
- **Graduate Program Director’s permission is not required during the process.**
- Undergraduate BSCE students must still meet the minimum number of 7 design credits for their technical elective as demonstrated on the BSCE flowchart. Please refer to Table 1 for the 5000 level graduate courses in each subdiscipline area and the number of design credits earned by taking them. Design credits for special topic courses are content dependent and listed as TBD.

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Table 1: Applicable Graduate Level Courses and Associated Design Credits

Course Number & Title Listed in Catalog	Design Credit	Pre-requisites*
ECE5203 Construction Quality Management	0	-
ECE5213 Principles of Design-Build Project Delivery	2	-
ECE5223 Techniques of Project Planning and Control	1	-
ECE5233 Advanced Construction Techniques and Methods	1	-
ECE5243 Fundamentals of Construction Accounting and Finance	0	-
ECE5263 Construction Safety Management	2	-
ECE5273 Construction Law	0	-
ECE5283 Conceptual Estimating	1	-
ECE5293 Special Topics in Construction Engineering	Course dependent	
ECE5323 Environmental Cleanup	2	-
ECE5333 Air Pollution Control	2	-
ECE5343 Advanced Environmental Engineering	1	-
ECE5353 Environmental Management	0	-
ECE5363 Surface Water Quality Management	2	-
ECE5393 Special Topics in Environmental Engineering	Course dependent	
ECE5413 Shallow and Deep Foundation Design	3	ECE4443
ECE5423 Geoenvironmental Engineering	3	-
ECE5433 Ground Improvement Methods	2	ECE3424
ECE5443 Designing with Geosynthetics	3	ECE3424
ECE5473 Earth Retaining Structures	3	ECE4443
ECE5493 Special Topics in Geotechnical Engineering	Course dependent	
ECE5523 River Engineering	2	-
ECE5533 Coastal Engineering	2	-
ECE5543 Design of Stormwater Management Systems	3	-
ECE5553 Ports and Harbors Engineering	3	-
ECE5593 Special Topics in Hydraulic Engineering	Course dependent	
ECE5703 Design of Timber Structures	3	ECE3723
ECE5713 Analysis and Design of Prestressed Concrete	3	ECE4743
ECE5723 Advanced Analysis and Design of Structures	0	ECE4733
ECE5753 Advanced Concrete Design	3	ECE4743
ECE5763 Advanced Composite Materials and Their Uses in Structures	3	ECE3723
ECE5773 Advanced Steel Design	3	ECE4753
ECE5783 Bridge Design I	3	ECE4743 & 4753
ECE5793 Special Topics in Structural Engineering	Course dependent	
ECE5813 Pavement Analysis and Performance	3	-
ECE5823 Pavement Management Systems	1	ECE3823
ECE5833 Traffic Engineering	1	ECE3823
ECE5843 Highway Safety Engineering	1	ECE3823
ECE5853 Airport Pavement Design and Management	2	-
ECE5103 Applied Geographic Information Systems	2	-
ECE5113 Sustainable Construction Practices	0	-

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Double-Dipping Policies:

This section provides more specifics regarding courses that can be taken at the senior level that can count towards a Master of Science in Civil Engineering (MSCE) or Master of Construction Engineering Management (MCEM) program (double-dipping) and other important information. This document does not supersede any of the additional requirements for either graduate program as stated in program brochures or the graduate catalog (see URL):

<https://www.ltu.edu/academicsandmajors/grad-cat>

- Students may apply a maximum of 9 credits of 4000/5000 level classes, taken as part of the BSCE Program, and apply them towards the MSCE or MCEM programs. Any course listed in Table 1 are permitted to be applied at the 5000 level and any course listed in Table 2 is permitted to be applied at the 4000 level. Other courses used as technical electives in the BSCE program may be considered for “double-dipping” into a graduate program if approved by the program director.
- If a student applies 9 credits of 4000 level classes, they are not permitted to take any more 4000 level classes at LTU towards the MSCE or MCEM programs. If 6 credits are applied, if permitted by the program director, they may complete one 4000 level class (3 credits) and count it towards the MSCE or MCEM degree once they become graduate students. If 3 credits are applied, if permitted by the program director, they may complete two 4000 level classes and count them towards the MSCE or MCEM degree once they become graduate students.
- For any course that is double-dipped into a graduate program, students must receive a B or better in that course. No exceptions.
- During the graduate degree, no courses are permitted to be retaken if they were taken as a BSCE student and applied to a graduate degree.
- All applicable classes will be transferred to the graduate transcript as ECE 5000 with 3 credits assigned. There will be no grade on the LTU graduate transcript. Instead, it will appear as "TR".
- All applicable 4000 level classes do not assist in satisfying the MSCE concentration requirement of completing 4 graduate classes in a particular subdiscipline. In addition, these classes do not count for any analytical credits (ACs). However, applicable 5000 level classes that are applied to the BSCE program and the MSCE program can count towards the MSCE concentration requirement and applicable ACs can be applied to the MSCE program as well.

Table 2: List of Senior Technical Elective BSCE courses that are Applicable for Double-Dipping*

BSCE Applicable Technical Elective Courses
ECE 4343 Environmental Engineering 2
ECE 4363 Environ Engin. Design
ECE 4443 Foundation Engineering
ECE 4563 Hydrology
ECE 4733 Advanced Structural Analysis
ECE 4753 Steel Design
ECE 4843 Highway Engineering

* ECE 4253 Construction Safety Management not included in this list since ECE 5263 Construction Safety Management is core course in MCEM program. Students should select ECE 5263 as a BSCE student if they wish to apply course to graduate degrees.