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REQUEST FOR A NEW MINOR

SUBMITTED BY:

Department	Civil and Environmental Engineering	College/School	College of Engineering and Mines
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See <http://www.uaf.edu/uafgov/faculty/cd> for a complete description of the rules governing curriculum & course changes.

PROGRAM IDENTIFICATION:

TITLE OF MINOR:	Transportation Engineering	
	*Number of credits required for completion (minimum is 15):	18
<p>**Unless otherwise specified by the appropriate academic unit, a course may be used more than once toward fulfilling degree, certificate, major and minor requirements. Credit hours for these courses count only once toward total credits required for the degree or certificate. Certifying that [the student has] met all major and minor requirements is the responsibility of [the student's] department faculty, who notify the Registrar's Office." From the General University Requirements section of "How to Earn a Bachelor's Degree" in the UAF Catalog.</p>		
Do all the required courses currently exist?		yes
If not, list the corresponding New Course paperwork associated with this request:		

A. DESCRIPTION OF THE PROPOSED MINOR. Include reasons justifying its creation; objectives of the minor and relationship of the required courses to those objectives.

Objective
 To give students seeking BS in engineering additional background necessary to practice in the field of transportation engineering.

Why
 The number of topics engineering students must learn to allow them to practice in the field of engineering is large. These topics range from communication to design of such systems as highways. The amount of material to be learned in this range of topics is large. Undergraduate engineering degrees at UAF are structured such that students entering the program with an appropriate background from high school (prepared to take calculus for example) can complete their degrees in four years. However, given the vast amount of material to be learned, there is not room in our curriculums for students to specialize very deeply into specific discipline areas such as transportation engineering. This minor will allow them to become more of a subject matter expert in transportation engineering. The minor is most appropriate for undergraduate students seeking a bachelors of science degree in civil engineering (BSCE). However, undergraduate student in other fields of engineering, such as mechanical engineering, may also be interested in obtaining a minor in this discipline. Undergraduate civil engineering students already are required to take 9 credits of the 18 credits and have the option of taking an additional transportation course as a technical elective (one technical elective course is required for a BSCE). Hence, by taking two extra courses (6 credits) a student earning a BSCE can also earn a minor in transportation engineering. Ultimately, students earning both a BS in an engineering field and a minor in transportation engineering will both be more prepared to work in the field of transportation engineering and also will be marketable.

How
 Students pursuing a minor in transportation engineering will be required to take Elementary Surveying (CE 112), Introduction to Transportation Engineering (CE 302), Introduction to Geotechnical Engineering, and Engineering Decision (ESM 422). These courses are all required for a BSCE. Additional students will be required to take three additional courses (list of approved courses is provided below). Each of these courses has additional prerequisites that will need to be satisfied by the student. Only one graduate level course can be counted towards the minor.

B. PROPOSED MINOR REQUIREMENTS AS THEY WILL APPEAR IN THE CATALOG:

Samples provided on page 2 of this form.

Minor in Transportation Engineering
1. Complete the following: CE F112 – Elementary Surveying CE F302 – Introduction to Transportation Engineering CE F326 – Introduction to Geotechnical Engineering ESM F422 – Engineering Decision
2. Complete three of the following (only 1 graduate course will be accepted): CE F405 – Highway Engineering CE F406 – Traffic Engineering CE F424 – Introduction to Permafrost Engineering CE F451 – Construction Cost Estimating and Bid Preparation CE F605 – Pavement Design CE F681 – Frozen Ground Engineering
3. Minimum credits required – 18 credits

C. ESTIMATED IMPACT

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.
No impact. These courses required for this minor are regularly taught in the civil engineering program

D. IMPACTS ON PROGRAMS/DEPTS:

<i>What programs/departments will be affected by this proposed action? Include information on the Programs/Departments contacted (e.g., email, memo)</i>
The only department impacted will be the Civil and Environmental Engineering Department.

F. PERSONNEL DIRECTLY INVOLVED WITH THE MINOR:

<i>List faculty currently teaching the required and elective (if any) courses, with a brief statement of duties and qualifications.</i>
Dr. Ming Lee – Assistant Professor of Transportation Engineering, teach and conduct research in the topic area of transportation engineering. Dr. Jenny Liu – Assistant Professor of Materials Engineering, teach and conduct research in the topic area of materials engineering as the topic applies to transportation engineering. Dr. Yuri Shur – Professor of Geotechnical Engineering, teach and conduct research in the topic area of geotechnical and permafrost engineering.

Mr. Billy Connor – Director of Alaska University Transportation Center, direct the activities of AUTC.

The above faculty are all highly qualified in the topic areas necessary for this minor and they all teach the courses required for the minor.

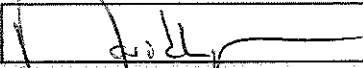
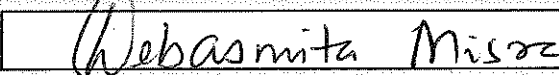

G. RELATIONSHIP OF THE PROPOSED MINOR'S OBJECTIVES TO THE "PURPOSES OF THE UNIVERSITY".

Include additional justifying information to support creation of the minor such as projected and present enrollments; need or public demand for the minor; support of other programs by the minor's creation, etc.

Relationship to the "Purpose of the University"

According to UAF's Development Plan (2007-2012), the goal at UAF is to "Produce graduate who are job-ready in areas of high employer demand, and conduct training and research applied to the development, planning, and management activities of the State." People with degrees in civil engineering are in high demand. This minor program allows us to prepare our students to be even more "job ready" and allows the student to be even more marketable in the area of transportation engineering.

APPROVALS:

	Date	10-1-10
Signature, Chair, Program/Department of:	CIVIL ENGR	
	Date	10/7/10
Signature, Chair, College/School Curriculum Council for:	CEM	
	Date	10/11/10
Signature, Dean, College/School of:	CEM	

ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE

 	Date	
Signature, Chair, UAF Faculty Senate Curriculum Review Committee		

Final approval will be at the level of the Chancellor or Chancellor's Designee, following vote of approval by the Faculty Senate.

SAMPLE MINORS FOR REFERENCE FROM THE UAF CATALOG – 2009-2010:

Taken from page 134, Art Degree Program:

Minor

1. Complete the following: *
ART F105—Beginning Drawing—3 credits
ART F262—History of World Art—3 credits
ART F365—Native Art of Alaska—3 credits
2. Complete one of the following: *
ART F161—Two-Dimensional Design—3 credits
ART F162—Color and Design—3 credits
ART F163—Three-Dimensional Design—3 credits

3. Complete one of the following: *
ART F201—Beginning Ceramics—3 credits
ART F211—Beginning Sculpture—3 credits
ART F268—Beginning Native Art Studio—3 credits
4. Complete one of the following: *
ART F207—Beginning Printmaking—3 credits
ART F209—Beginning Metalsmithing and Jewelry—3 credits
ART F213—Beginning Painting (Acrylic or Oil)—3 credits
ART F371O—Digital Photography and Pixel Painting—3 credits
5. Minimum credits required—18 credits

** Student must earn a C grade or better in each course.*

Note: A minor in art for the B.A. or B.S. degree is available only to non-art majors.

Taken from Page 142, Communication Degree Program:

Minor

1. Complete the following:
COMM F180—Introduction to Human Communication—3 credits
COMM F330—Intercultural Communication (3)
or COMM F351—Gender and Communication—3 credits
2. Complete communication electives at the F300-level or above—9 credits
3. Minimum credits required—15 credits

Note: Courses designated as social science or humanities that are taken for the minor may also be used to fulfill social science and/or humanities distribution requirements for the B.A. degree.

These samples are for your reference and may be deleted from your submitted paperwork.