13-145 LSC: App-2/20/14 UNUCC: App-3/4/14 Sencite: App-3/25/14

# REVISION APPROVAL COVER SHEET FOR CONTINUATION OF W-DESIGNATION

## TYPE I PROFESSOR COMMITMENT

Professor	Gary S. Stoudt
Department	Mathematics
Email	GSSTOUDT@IUP.EDU

Please provide answers to these questions on the next page:

- 1. List up to three of the W courses that you have taught since your appointment as a Type I professor.
- 2. Using your most recent W course, discuss what the writing activities are intended to accomplish. You do not need to describe the amount of writing, frequency of assignments or fill out the summary chart for writing assignments.

Approvals:	Signature	Date
Professor (s)	HarySStoudt	2-10-14
Department Chair	Dec Do	2/10/14
College Dean	Lour Duf	2/12/84
Director of Liberal Studies	DII polas	2/20/14
UWUCC Co-chair(s)	Gail Sechint	3/4/14

Received

## TYPE I PROFESSOR COMMITMENT

PROFESSOR	Gary S. Stoudt	_DEPARTMENT	Mathematics				
List up to three of the W courses that you have taught since your appointment as a Type I professor.							
MATH 271 Introduction to Mathematical Proofs I: Fall 2013, Spring 2006 MATH 350 History of Mathematics: 20 times since Type I appointment in 1992							

MATH 371 Linear Algebra: Spring 1995

Using your most recent W course, discuss what the writing activities are intended to accomplish. You do not need to describe the amount of writing, frequency of assignments or fill out the summary chart for writing assignments.

Most Recent: MATH 271 Introduction to Mathematical Proofs I Fall 2013

Why Did You Choose to Study Mathematics?

This informal writing assignment was given the first day of class. The first goal of the activity was to reinforce immediately that writing will be a part of this course. It also serves as a way for me to get to know the students. For the student, the assignment is a way to reflect upon their mathematical career, to see how they got into this major and this class.

How Do You Best Learn Mathematics? What is the Purpose of Homework?

These two assignments were given early in the semester before we studied enough content to write formal mathematical proofs. These reflections also allow me to get to know the students, but in a more formal, academic way. I am interested in seeing their learning styles and how I can use this information in my teaching of the course. I also want the students think more carefully about their studies up to this point: what works, what does not work, and how they can approach things differently. Forcing students to put this on paper forces them to think more deeply about how they work. MATH 271 in the first course our students take that does not necessarily emphasize "getting the correct answer" so their work habits may need to change to accommodate this. This is the ideal time for students to reflect on this.

#### **Culture Points**

This is a semester long project requiring students attend colloquia and read mathematics papers and then to summarize and reflect on the activity. The first goal of this assignment is to integrate the student into the mathematical community. The required writing is a combination of a review of an event, a description paper, and a reflection paper. Another goal is to evaluate the students understanding of the mathematics of the talk or paper.

## **Mathematical Proof Writing**

The ultimate goal of the course is to teach students the techniques of mathematical proofs and how to effectively convince the reader of the truth of his/her statements and the validity of his/her argument. These assignments are the heart of the course. Writing proofs falls under the heading of writing to communicate course content. In these proofs I can see if the student understands the proof techniques and the mathematics content itself. These assignments evaluate how well students can speak the "language" of mathematics—that

is, use its concepts and vocabulary. The student's ability to write in a discipline is often an important measure of the student's mastery of that discipline.

## Final Proof Portfolio

At the end of the semester students submit various proofs that have been written throughout the semester. Unlike the mathematical proof writing above, where students are learning the language of mathematical writing, this writing is held to more meticulous standards to see if the students have mastered the content. This assignment is a writing to learn activity as students are expected to revise and resubmit (as many times as they wish up to the deadline) to create a professional, finished product. In the revise and resubmit stages students gradually improve their writing as they learn additional styles throughout the course. The ultimate goal is professionally written mathematics.