

THE UNIVERSITY OF TOLEDO

ANNUAL REPORT OF PROFESSIONAL ACTIVITY

(July 1, 2015 – June 30, 2016)

Name James D. Anderson Department Mathematics

Faculty Rank Assistant Professor Year of Appointment 1990 Year Last Promoted 1995

Highest Degree Master of Science Year Rec'd 1988

**NOTE: In order to open the links in this report, please go to <http://math.utoledo.edu/~janders/ARPA/ARPA2016.pdf>**

**I. TEACHING (OR SERVICE AS A LIBRARIAN): (55%)**

A. **Scheduled Courses:** Credit hours are course credit hours; contact hours are the actual number of hours you meet your class each week.

**Fall Semester 2015**

**Spring Semester 2016**

<u>Course Number</u>	<u>No. of Hours</u>		<u>Course Number</u>	<u>No. of Hours</u>	
	<u>Credit</u>	<u>Contact</u>		<u>Credit</u>	<u>Contact</u>
MATH-1330-005	3	3			
MATH-1330-006	3	3	On Sabbatical		
MATH-1330-007	3	3			

B. **Advising:**

Graduate \_\_\_\_\_ No. of Advisees \_\_\_\_\_

Undergraduate \_\_\_\_\_ No. of Advisees \_\_\_\_\_

C. **Other Teaching Activities:** Work with Honors students; direction of independent readings and/or research; direction of theses and dissertations; development of new courses; librarian service.

1. Continued my use of the flipped classroom method of instruction in all my classes for the Fall semester. I started the semester with a total of 134 students in my three classes. Of these 134 students, 2 students never attended the class. Of these 132 students, 10 students withdrew from the course. Of the remaining 122 students, 116 students completed the course by taking the final exam. Of the 122 students, 82 students (67.2%) received a grade of A, B, or C and 40 students

(32.8%) received a grade of D or F. Of the 132 students, 62.1% received a grade of A, B, or C and 37.9% received a grade of D, F, or W. Continued the use of Pre-Class problems in the Fall semester. These Pre-Class problems gave problems and their solutions in order to prepare students for the In-Class problems. Provided the students with solutions to the In-Class problems. Students were given a Pre-Exam in the Fall semester. Bookmarks were used in the Pre-Exam to link students to the solution of each problem. These solutions were given in the Pre-Class problems in order for the students to see how the problems on the Pre-Exam related to the problems in the Pre-Class problems.

## 2. Course Evaluations for Fall 2015

### Course Evaluation for MATH-1330-005

Question	Excellent (4)	Good (3)	Adequate (2)	Poor (1)	Not Acceptable (0)	No Opinion Not Applicable	Mean	SE of Mean	Total
Instructor's preparation for class	6	11	2	1			3.10	0.18	20
Instructor's knowledge of the course material	8	7	5				3.15	0.18	20
Instructor's ability to explain the subject	2	4	7	5	2		1.95	0.26	20
Instructor's handling of questions and class discussion	2	10	6	1	1		2.55	0.21	20
Instructor's interest in the course	11	7	1	1			3.40	0.18	20
Instructor's encouraging creative thinking by students	1	7	5	5	1	1	2.11	0.24	20
Instructor's respect and concern for students	3	11	5	1			2.80	0.17	20
Fairness and reasonableness of the grading procedure	5	8	4	1	2		2.65	0.27	20
Relationship of exams to course material	6	10	3	1			3.05	0.18	20
Prompt, useful feedback on homework and exams	3	12	3	1	1		2.75	0.22	20
Overall level of the instruction in this course	4	8	3	4	1		2.50	0.27	20

### Course Evaluation for MATH-1330-006

Question	Excellent (4)	Good (3)	Adequate (2)	Poor (1)	Not Acceptable (0)	No Opinion Not Applicable	Mean	SE of Mean	Total
Instructor's preparation for class	5	9	2	1			3.06	0.20	17
Instructor's knowledge of the course material	9	6	1				3.50	0.16	16
Instructor's ability to explain the subject	4	1	5	4	3		1.94	0.35	17
Instructor's handling of questions and class discussion	2	6	4	4	1		2.24	0.28	17
Instructor's interest in the course	11	6					3.65	0.12	17
Instructor's encouraging creative thinking by students	3	5	3	5		1	2.38	0.29	17
Instructor's respect and concern for students	6	5	1	2	1	2	2.87	0.34	17

Fairness and reasonableness of the grading procedure	5	5	4	3			2.71	0.27	17
Relationship of exams to course material	7	7	2	1			3.18	0.21	17
Prompt, useful feedback on homework and exams	4	8	4	1			2.88	0.21	17
Overall level of the instruction in this course	4	5	3	3		1	2.67	0.29	16

### Course Evaluation for MATH-1330-007

Question	Excellent (4)	Good (3)	Adequate (2)	Poor (1)	Not Acceptable (0)	No Opinion Not Applicable	Mean	SE of Mean	Total
Instructor's preparation for class	6	6	2				3.29	0.19	14
Instructor's knowledge of the course material	9	5					3.64	0.13	14
Instructor's ability to explain the subject	3	4	6		1		2.57	0.29	14
Instructor's handling of questions and class discussion	4	7	3				3.07	0.20	14
Instructor's interest in the course	8	6					3.57	0.14	14
Instructor's encouraging creative thinking by students	5	4	4	1			2.93	0.27	14
Instructor's respect and concern for students	8	4	2				3.43	0.20	14
Fairness and reasonableness of the grading procedure	5	6	3				3.14	0.21	14
Relationship of exams to course material	6	8					3.43	0.14	14
Prompt, useful feedback on homework and exams	4	6	3	1			2.93	0.25	14
Overall level of the instruction in this course	4	7	2	1			3.00	0.23	14

### Course Evaluation for All Classes

Question	Excellent (4)	Good (3)	Adequate (2)	Poor (1)	Not Acceptable (0)	No Opinion Not Applicable	Mean	SE of Mean	Total
Instructor's preparation for class	17	26	6	2			3.14	0.11	51
Instructor's knowledge of the course material	26	18	6				3.40	0.10	50
Instructor's ability to explain the subject	9	9	18	9	6		2.12	0.17	51
Instructor's handling of questions and class discussion	8	23	13	5	2		2.59	0.14	51
Instructor's interest in the course	30	19	1	1			3.53	0.09	51
Instructor's encouraging creative thinking by students	9	16	12	11	1	2	2.43	0.16	51
Instructor's respect and concern for students	17	20	8	3	1	2	3.00	0.14	51
Fairness and reasonableness of the grading procedure	15	19	11	4	2		2.80	0.15	51
Relationship of exams to course material	19	25	5	2			3.20	0.11	51

Prompt, useful feedback on homework and exams	11	26	10	3	1		2.84	0.13	51
Overall level of the instruction in this course	12	20	8	8	1	1	2.69	0.15	50

### 3. Grade Distribution for Fall 2015

#### MATH-1330-005 Trigonometry

A 10    B 6    C 14    D 3    F 9    W 2

Total ABCDF: 42                      Percentage:    ABC 71.4%    DF 28.6%

#### MATH-1330-006 Trigonometry

A 10    B 4    C 9    D 5    F 12    W 3

Total ABCDF: 40                      Percentage:    ABC 57.5%    DF 42.5%

#### MATH-1330-007 Trigonometry

A 5    B 14    C 10    D 2    F 9    W 5

Total ABCDF: 40                      Percentage:    ABC 72.5%    DF 27.5%

#### MATH-1330 Trigonometry (All Sections)

A 25    B 24    C 33    D 10    F 30    W 10

Total ABCDF: 122                      Percentage:    ABC 67.2%    DF 32.8%

4. Excel spreadsheets were provided on the course webpage, in order to allow students to calculate their Homework Score and Grade and their Course Score and Grade.
5. Students' scores and course grades were update three times on Blackboard before the final grades were posted. These updates were done on Oct 1, Oct 22, and Dec 1.
6. Maintained a course webpage for MATH-1330.
7. Office hours were scheduled from information which students provided to me by responding to an email sent to them on the first day of classes about their availability for office hours. In order to accommodate as many schedules as possible, 6.5 office hours were held as follows.

Monday	1:15 – 1:50
Tuesday	4:30 – 6:00
Wednesday	5:30 – 6:30
Thursday	1:00 – 2:30
Friday	8:30 – 9:30, 3:00 – 4:00

8. Evaluated a total of 348 assessment questions for 116 students who took the final exam in the Fall semester in my three classes.
9. My sabbatical project for Spring 2016 was to develop material for the MATH-1850 (Calculus I) course to be taught using the flipped classroom method of instructions. The following material was developed on this sabbatical.

<a href="#">Pre-Class Problems 1</a>	Review of Solving Nonlinear Inequalities
<a href="#">Pre-Class Problems 2</a>	Functions
<a href="#">Pre-Class Problems 3</a>	The Limit of a Function
<a href="#">Pre-Class Problems 4</a>	One-Sided Limits
<a href="#">Pre-Class Problems 5</a>	Continuity
<a href="#">Pre-Class Problems 6</a>	Tangent Lines and Instantaneous Velocity
<a href="#">Pre-Class Problems 7</a>	Definition of a Derivative
<a href="#">Pre-Class Problems 8</a>	Derivatives of Polynomial Functions
<a href="#">Pre-Class Problems 9</a>	The Product and Quotient Rules
<a href="#">Pre-Class Problems 10</a>	The Power and Chain Rules for Differentiation
<a href="#">Pre-Class Problems 11</a>	Implicit Differentiation
<a href="#">Pre-Class Problems 12</a>	Derivatives of Trigonometric Functions
<a href="#">Pre-Class Problems 13</a>	Higher-Order Derivatives
<a href="#">Pre-Class Problems 14</a>	Local Maximum and Minimum Values
<a href="#">Pre-Class Problems 15</a>	Concavity and the Second Derivative Test
Pre-Class Problems 16	Graphing Functions
<a href="#">Pre-Class Problems 17</a>	Absolute Maximum and Minimum Values
<a href="#">Pre-Class Problems 18</a>	Applied Maximum and Minimum Problems
Pre-Class Problems 19	Related Rates
<a href="#">Pre-Class Problems 20</a>	Limits Involving Infinity
<a href="#">Pre-Class Problems 21</a>	Increments and Differentials
Pre-Class Problems 22	Newton's Method
<a href="#">Pre-Class Problems 23</a>	Antiderivatives and the Indefinite Integral
<a href="#">Pre-Class Problems 24</a>	Simple Substitution
<a href="#">Pre-Class Problems 25</a>	The Definite Integral
<a href="#">Pre-Class Problems 26</a>	Inverse Functions
<a href="#">Pre-Class Problems 27</a>	Derivatives and Integrals of Exponential Functions
<a href="#">Pre-Class Problems 28</a>	Derivatives and Integrals of Logarithmic Functions
<a href="#">Pre-Class Problems 29</a>	Integrals Involving the Other Trigonometric Functions (Tangent, Cotangent, Secant, and Cosecant)
<a href="#">Pre-Class Problems 30</a>	Derivatives of the Inverse Trigonometric Functions
<a href="#">Pre-Class Problems 31</a>	Integrals Involving Some of the Inverse Trigonometric Functions

I am still working on the animations for Pre-Class Problems 16, 19, and 22.

## II. **PROFESSIONAL ACTIVITY:** (25%)

- A. **Publications:** Distinguish among books, articles, book reviews, abstracts, newsletters, etc. List complete citation including names of co-authors, date and complete pagination. Indicate whether journals are refereed (R). Attach copies of letters of acceptance. Please indicate whether any of the listings below have been previously reported (PR) in another category.

### 1. **Submitted:**

2. **Accepted:**
3. **In Press:** [i.e., in galley proof]
4. **Published:**

B. **Papers Presented at Professional Meetings:** Provide complete citation. Specify the nature of the association (State, Regional, National, or International) and designated papers as (C) competitively selected, (I) invited, or (V) volunteered.

C. **Other Current Research and Scholarly Activity:** List research in progress; grants received (include name of granting agency, grant duration and if new or renewal); grant proposals submitted. Show how progress has been made since last report.

1. Attended the Midwest Several Complex Variables Conference on May 13 – 15, 2016 at the University of Toledo.
2. Attended most of the Complex Analysis seminars given on Thursdays in the Fall semester.

D. **Performances and Other Artistic Endeavors:** List with place, date and include published programs, etc.

### **III.SERVICE: (20%)**

A. **Department, College, University Service:** List specific committees. Provide evidence of level of effort and participation.

#### **University Service**

#### **College Service**

1. Served on the College of Natural Sciences and Mathematics Council for the Fall semester. A substitute served in my place while I was on sabbatical. I served on the Council's Curriculum Committee.

**Department Service**

1. Served as the course coordinator for MATH-1330 in the Fall semester. Coordinated the assessment process. Created the three assessment questions for the nine sections of the course. I collected data from eight sections in the Fall semester. One section did not put the assessment questions on the final exam. Identified and copied a Good, Fair, and Poor solution for the three assessment questions.
2. Served on the Assessment Committee. My main duty on this committee was to write the assessment reports for our programs. Collected data in order to complete these reports for our BA, BS, MA, MS, and PhD programs. In order to collect this data, I sent out a total of 53 emails requesting the needed information. In addition to attending several Department Assessment Committee meetings, I attended a couple of meetings with the University Assessment Directors.
3. Served on the Teaching Evaluation Committee. My duty on this committee was to observe the teaching of three Department members.

B. **Participation in Organizing or Running Professional Meetings:** Indicate role.

C. **Other Professional Activities:** Offices held in professional and honorary societies, reviewing and refereeing of articles and grant proposals, editorship and membership on editorial boards, etc.

D. **Lectures at Workshops or Non-credit Courses:** List dates, places and other circumstances.

E. **Unpaid Consulting Assignments of a Professional Nature:** List nature, dates and other circumstances.

Signature \_\_\_\_\_ Date \_\_\_\_\_

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This report  does  does not meet expectations per AFWA. If not, attach an explanation.

Signature \_\_\_\_\_ Date \_\_\_\_\_  
Department Chairperson