Joseph M Caruso, Ph.D.

email: ncrunch32@gmail.com Office Phone: 716-286-8143

8/2015 – Present Niagara University Faculty Fellow

I am currently in my 8th year of teaching at Niagara University. As a Faculty Fellow at Niagara University, my IBM experience (see prior work history below) allowed me to give students a "hands on" approach to solving business problems. In 2015 I was hired by the College of Business and am currently in the Finance/Economics Department.

The courses which I have taught through Spring 2023 are (preps/sections):

Course	Title	UG/MBA	Preps/ Sections
ECO231	Business Analytics	UG	14/28
ECO103	Principles of Macroeconomics	UG	4/6
ECO102	Principles of Microeconomics	UG	3/3
MGT673	Production and Operations Management	MBA	9/9
MGT220	Operations and Supply Chain Management	UG	7/7
Other	Supply Chain, Logistics, Market Research	UG	10/11
Total			47/64

Innovations in Teaching

I have developed a unique syllabus for ECO231 (Business Analytics) where lecture is supplemented by three team presentations. I act as a consultant to students on project teams for a richer learning experience.

- Students are challenged with a descriptive statistics project with simulated data sets that resemble actual business data. Students analyze the data and generate graphics, tables and confidence intervals in Excel and/or R Studio.
- Students present chi-square analysis of contingency tables created by the professor where tables of data are generated using interactions and white noise so that all teams are on a level playing field.
- Student teams present stepwise regression and a regression tree analysis at the end of the semester using R Studio to introduce them to machine learning.

Engagement with General Motors Spring of 2021

In the Fall of 2020, at my request, the NU College of Business reached out to General Motors(GM) for a project to engage the students in my MGT673 (MBA) Operations Management class. GM provided us with a case study where the business problem was to find the most efficient way to ship 1600 engine blocks per day from Mexico to the GM Tonawanda engine plant. I used this case study for my Spring 2021 class as a team project in my 5 week accelerated class.

The class used the mornings for review of textbook concepts and afternoons to study the GM project. We developed a core spreadsheet model that developed costs and risks for a rail/truck supply chain solution. Then each of 4 teams went off and developed what they thought were the best solutions to

the problem. At the end of the semester the teams presented back to the Tonawanda supply chain director, Steven Clifford. The GM team rated the presentations 46, 49, 54, and 45 out of a total of 55 points. Their comments to us were " Although all student presentations were awesome, we believed that Team #1 stood out from the rest based on: 1). Went outside the box to get additional details (ie – Defiance info); 2). Listed environmental concerns; 3). Considered many options than perhaps the other teams; and 4). Really dug into the items that could impact production (ie – quality of product based on transportation method and stateside supplier). Overall, we believe the students represented Niagara University very well."

Manhattan College Business Analytics Competition (MCBAC) 2018, 2020, 2022, 2023

- Advisor to students for the MCBAC, created independent study course to prepare students
- In 2018 students came in 2nd of 18 competing colleges in poster competition, 5th place overall at in-person competition
- Competition cancelled in 2020 due to Covid
- Competed in online competition in 2022 but did not make second round
- Currently planning to take a team of students to the May 2023 in-person competition at Manhattan College.

QAAC Committee for the NU College of Business

- Chairperson of the QAAC (Quality Assurance and Accreditation Committee) from 2019-2022 (There were 4 years on analysis since the prior chairperson left unexpectedly)
- The NU College of Business underwent an accreditation review in 2020 with no comebacks required for the assessment of learning activities
- At the Dean's direction successfully implemented a new knowledge of field assessment with "before" and "after" testing to assess knowledge gain
- Although there is now a new chairperson I am still deeply involved in committee activities.

IBM Job History

My career began in 1978 at IBM in Poughkeepsie, NY. At that time Poughkeepsie was the mainframe capital of the work and I began my journey as a systems analyst in the production control area. During my career at IBM I took advantage of all opportunities that were offered to me. I worked as a systems analyst, materials manager, statistician, market researcher, quality analyst and forecaster. Along the way I compiled an impressive list of credentials:

- PhD in Engineering Systems at Union College, NY.
- President of the Mid Hudson Valley Chapter of the American Statistical Association.
- published several external articles in the areas of software reuse and reliability.
- US patent in the area of survey analysis.

I ultimately attained a rank of senior systems analyst at IBM which was one step below director level. I was generally known as the "quantitative" analyst and often assisted other staff people with quantitative analysis. The timeframes and my job responsibilities at IBM are listed below.

Timeframe	**Job Responsibility at IBM**
12/2006-12/2012	Business Consultant

8/2000-11/2006	Mainframe Forecaster
11/1993-7/2000	Mainframe Market Research
11/1991-10/1993	Software Development Tools
8/1984-10/1991	Systems Assurance
2/1982-7/1984	Production Control Manager
8/1978-1/1982	Systems Analyst

Job History Prior to IBM

08/1975-08/1978 Research Assistant at Penn State University

Performed analysis work for Dr. M. Hallberg at Penn State on a quadratic programming model used to develop milk prices for U.S.D.A.

Key Skills

IBM Certified Consultant, SAS programmer, Websphere Business Modeler (WBM), statistics, survey analysis, forecasting. Business Design Consultant (BDC) for a Cognos reporting system

Key Courses and Training

Certified market researcher from University of Georgia, 1998.

Education

Ph.D. in Administrative and Engineering Systems
Union College, United States of America, 1993
Thesis Title: An Optimal Software Release Policy Model with a Probabilistic Cost Function, 1993

MS in Agricultural Economics and Operations Research
Penn State University. United States of America, 1978
Thesis Title: Plant Location in a Multicustomer Route Distribution Environment, 1978

BA in Economics
SUNY at Stony Brook. United States of America. 1974

Publications

Caruso, J.M.. and Potenza: Quick and Dirty Survey Analysis to Assess Real Time Requirements, in: SAS Conference Proceedings. NESUG 2007, November 11-14, 2007, Baltimore MD, 2007

Heching, A.. Leung, Y.T., and Caruso, J.M: Using Surveys to Understand the Present and Predict the Future, in: Journal, SAS Conference Proceedings. 2001
Poulin, Jeffrey S. and Joseph M. Caruso: A Reuse Measurement and Return on Investment Model, in: Journal, Proceedings of the Second International Workshop o, 1993

Piwowarski, Paul, Ohba, Mitsuru, and Caruso, Joseph: Coverage Measurement Experience During Function Test, in: Journal, IEEE 15th International Conference on Software Eng, 1993

Poulin, Jeffrey S. and Joseph M. Caruso: Determining the Value of a Corporate Reuse Program, in: Journal, Proceedings of the IEEE Computer Society Internal, 1993

Poulin, Jeffrey S.. Debera Hancock and Joseph M. Caruso: The Business Case for Software Reuse, in: Journal, IBM Systems Journal. 1993

Caruso, J.M., and Desormeau, D.W.: Integrating Prior Knowledge with a Software Reliability Growth Model, in: Journal, IEEE 13th International Conference on Software Eng, 1991

Membership in professional organizations

Past president MHV Chapter of the American Statistical Association

Other job-related

Patent: "Method for Improving Robustness of Weighted Estimates in a Statistical Survey activities Analysis", Patent # US 6,574,585 B2. Joe Caruso, Aliza Heching, Ramesh Inaganti,Ying Tat Leung, June 2003