

PTR Portfolio

Submitted: July 2024

Table of contents

Note to the Reader	4
1 A Teacher, but Not an Educator	6
2 Being Infected by the Curiosity of Others	13
3 Relieving their Burden while Advancing their Vision	16
4 What's In a Name?	20
 Required Documents	 21
A Curriculum Vitae	21
Curriculum Vitae	22
B Faculty Activity Reports	30
Faculty Activity Report, AY1213	31
Faculty Activity Report, AY1314	35
Faculty Activity Report, AY1415	38
Faculty Activity Report, AY1516	42
Faculty Activity Report, AY1617	45
Faculty Activity Report, AY1718	48
Faculty Activity Report, AY1819	51
Faculty Activity Report, AY1920	53
Faculty Activity Report, AY2021	56
Faculty Activity Report, AY2122	59
Faculty Activity Report, AY2223	62
Faculty Activity Report, AY2324	65
C Department Head Reviews	68
Dept. Head Review, AY1213	69
Dept. Head Review, AY1314	71
Dept. Head Review, AY1415	73
Dept. Head Review, AY1516	75
Dept. Head Review, AY1617	77

Dept. Head Review, AY1718	79
Dept. Head Review, AY1819	81
Dept. Head Review, AY1920	83
Dept. Head Review, AY2021	85
Dept. Head Review, AY2122	87
Dept. Head Review, AY2223	89
Dept. Head Review, AY2324	91

Note to the Reader

Certain authors, speaking of their works, say “My book,” “My commentary,” “My history,” etc....They would do better to say “Our book,” “Our commentary,” “Our history,” etc., because there is in them usually more of other people’s than their own.¹

At the peak of summer, as a heat wave enveloped the country, the horn blast signaled the start of the Mac — the longest annual freshwater sailing race in the world where hundreds of sailors gather to race across Lake Michigan and Lake Huron from Chicago to Mackinac Island. Wanting to witness the magic, we maneuvered the boat to the outside of the fleet and watched as teams capitalized on the southerly winds, dotting the horizon with spinnakers². In that moment, as I stood at the helm, the boat and wind gently rocking our ship, I was at peace knowing there was no where else I wanted to be.

While I have no aspirations of ever competing in the Mac, I have enjoyed learning to sail over the past several years. Each summer day on the water harnessing the wind (with no particular destination in mind) soothes the wounds of a hard academic year. And, each outing provides a learning opportunity — a chance for my boat to teach me a bit more about being a sailor. Early this summer, my youngest daughter asked if I would take her out, “just the two of us,” for the afternoon and teach her more about sailing. Including her in the preparations, she tied knots and steered our course as I raised the sails. Just as we got underway, the wind caught my hat and sent it flying into the lake. The outing was now a lesson in conducting a crew-over-board maneuver (it was a nice hat). The standard maneuver required that we sail away from the hat, turn through the wind, and then approach the hat from downwind so that we could easily control our speed — me steering a steady course allowing my daughter to reach overboard and retrieve the hat.

To an onlooker only familiar with powered vessels, my actions would seem strange. Instead of turning immediately to recover the hat, we chose to first sail farther away. An abrupt turn easily executed on a powered vessel could result in the sailboat capsizing. In that moment, success required that I employ my knowledge and skills not only to achieving my personal desires (I wanted that hat back) but also to safeguarding the well-being of the vessel and its crew. I believe the same should be true within academia. The success/strength of a portfolio should not be determined solely by the line items on a faculty member’s CV; we should also

¹Pascal, Blaise. *Pascal's Pensées*. (1958) New York:EP Dutton, (#43)

²a large sail that acts as a kite, allowing the wind to push the boat downwind ([seen here in an image from the 2024 race start](#)).

consider how the faculty member has stewarded the mission of the Institute to its benefit, including its faculty and students.

This portfolio reflects on the decisions I have made in charting the course of my career. While I am uncertain of my destination, I can describe my current direction and the principles that guide that direction. As such, this portfolio is organized around the facets of my professional mission and vision, developed alongside a group of colleagues³, that guide my professional activities. I routinely tell my students they should never trust a study that omits a “limitations” section; as such, this portfolio reflects on both my positive intent and areas of concern. I then submit to your determination whether my path is of benefit to the Institute.

 Note

This portfolio was designed to be read online ([insert address](#)). However, the PDF version retains all required content.

³During the 2021-2022 academic year, supported by the Center for the Practice of Scholarship and Education, I facilitated a reading of Susan Robison’s *The Peak Performing Professor: A Practical Guide to Productivity and Happiness* with five colleagues. I owe a great deal to the conversations with these amazing women: Eva Andrijcic, Sylvia Carlisle, Heather Chenette, Michelle Marincel Payne, and Jenny Mueller.

1 A Teacher, but Not an Educator

Teachers can fan flames that are already there, but usually cannot create the spark that first attracts a person to something...There is no accounting for desire. Who knows why we are drawn to the things that attract us. Teachers exist to serve such attractions, not create them; otherwise we are no longer teacher[s] but evangelists.¹

Assigning grades was the easy way out of doing the “actual work” of teaching...When I eliminated grades it tested my creativity and patience. I was forced to rethink what when on in my class.²

These two quotes, side by side, capture the battle that has waged within me over the years as I have navigated my role in the classroom. Like Blackwelder, the idealist in me believes in connecting with others and inspiring them to learn; however, the realist in me resonates with Sells, accepting that I cannot manifest in someone the same joy in the material I have. In an attempt to reconcile these ideas, we might distinguish between a teacher and an educator.

💡 Educator vs. Teacher

A teacher provides instruction, guidance, and feedback during the learning process. In contrast, an educator goes beyond teaching, inspiring students toward an interest and passion in the material.

My growth as a teacher has coincided with a decrease in my student course evaluations. Understanding that these evaluations primarily reflect the student experience, I believe this trend reveals that I have struggle more and more to connect with my students, making it difficult to inspire them. As a result, I am not the educator I aspire to be; however, I have leaned into what I view as my primary responsibility as a teacher: providing rich learning opportunities.

❗ My Professional Mission as a Teacher

To *design high quality learning experiences* for students who want to use data with integrity and educators who want to impact students.

¹Sells, Ben. *The Soul of Sailing*. (2019)

²Aaron Blackwelder in *Ungrading: Why Rating Students Undermines Learning (and what to Do Instead)* (2020), edited by Susan Blum.

During the Fall of 2020, my grandmother was losing her battle with cancer. With the COVID pandemic at its height, my courses had transitioned to a hybrid delivery meeting twice weekly, and I leveraged this to be with my grandmother during her final days. I would lead four sections of my Introductory course, then drive North of Indianapolis to spend time with family and help where I could, shifting between helping make a meal and meeting with students on Teams. Forty-eight hours later, I would return to Terre Haute for the next class meeting. The flexibility that had been built into my course allowed me to be present with students and my family in a way that I would not have previously thought possible. I place high importance on designing learning experiences that are flexible.

Flexibility in Course Design

Students benefit from structure in a course, but designing those structures to be flexible allows learning to take place in the midst of external shocks to the life of the professor and/or students.

Since the pandemic, I have transitioned the vast majority of my courses to a hybrid structure to promote flexibility for my students (and myself) and allow me to operate out of my strengths. But, this transition has required that I commit time to creating resources to promote student success in this environment. For example, I converted my lecture notes to online texts.³ Available online (and for download as a PDF), the design of this portfolio mimics the design of the texts available to students. In addition to a text, my courses include videos covering key concepts and examples (see Figure 1.1 for an example); and, note packets guide students through the resources and encourage them to take a more active role in summarizing content.

Importance of Moodle

Moodle plays an integral part of my course design, and it is an extension of my classroom (or maybe, the classroom is an extension of my Moodle course). A visit to my class would not tell you nearly as much about my teaching philosophy as my Moodle course. For those interested, I have an example course available to peruse by [clicking here](#).

A course calendar provides guidance on pacing through the material between class meetings, but the resources are available for students to review as their schedule permits.

One strength of the course is the flipped classroom. Being able to watch the lecture videos whenever I needed them helped me learn the content at my pace, and review the content when I did not fully grasp the topic. (MA223 student)

³I have a text for each course I teach regularly, including [MA223 Introductory Statistics](#), [MA482 Biostatistics](#), and [MA483 Bayesian Statistics](#). I revise the materials and continue to develop new material as my courses develop.

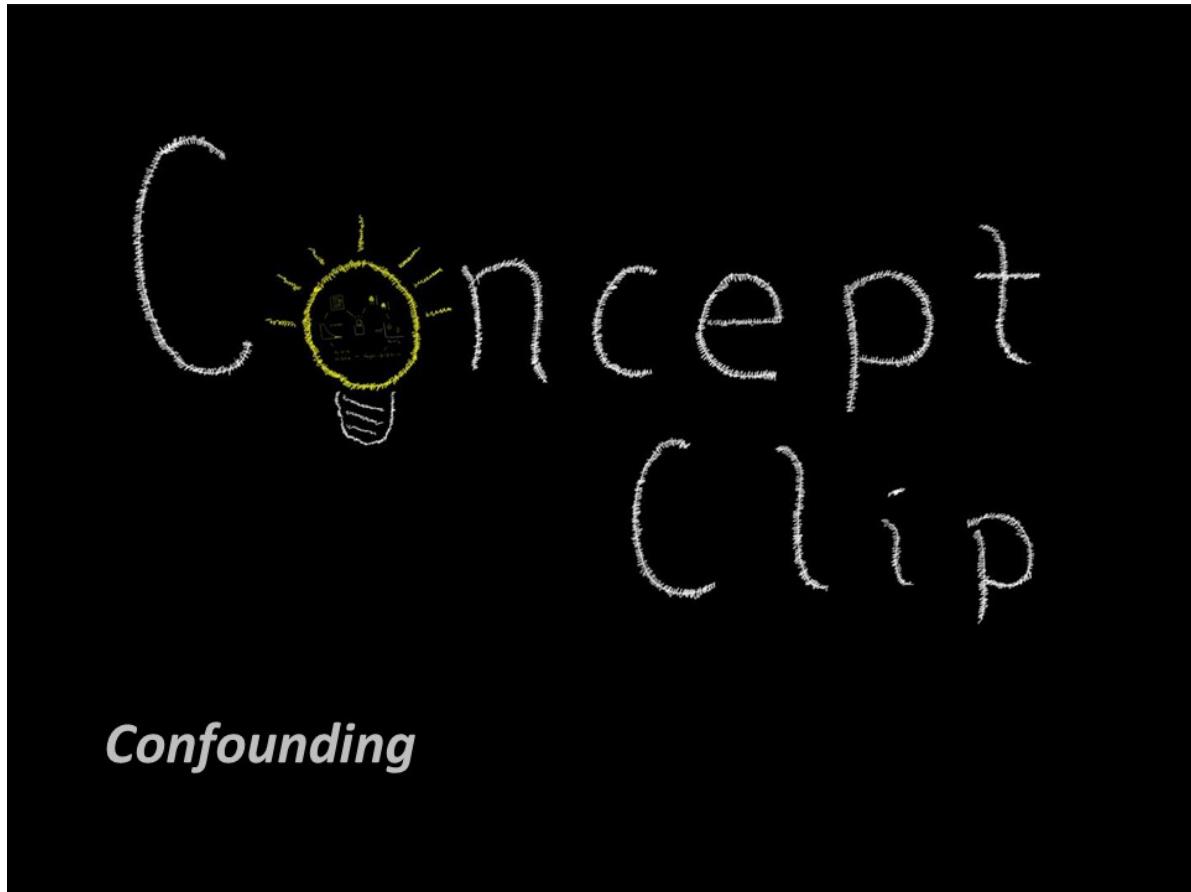


Figure 1.1: Example “concept clip” used in my Introductory Statistics course to discuss confounding.

MA223 Introductory Statistics

Named “Engineering Statistics I,” [MA223](#) is the introductory statistics course required by most science and engineering programs on campus. The course emphasizes statistical literacy (speaking the language of statistics and interpreting statistical methods and results), reasoning (defining the need for data to address questions, understanding the role and impact of variability), design (approaches to data collection and the impact of the study design on the conclusions), and analysis (choosing an appropriate methodology and using a statistical computing environment to carry out an analysis). The concepts are introduced in the context of science and engineering applications.

Primary content delivery happens remotely. In-class meetings are reserved for topics that would benefit from discussions or additional examples, attempting to take more abstract concepts and make them tangible. I broadcast these discussions on Teams so that students can engage remotely if they are unable to attend in person. To provide flexibility during assessments, I have transitioned to take-home exams and emphasize projects, often allowing students to collaborate. This also facilitates my transition to alternative grading schemes, which relies on students revising work.

The revision system really assisted with my learning, along with the resources the professor provided. Although the course was difficult, the course structure allowed for me to learn material quicker and more effectively. (MA483 student)

MA483 Bayesian Data Analysis

An interesting course in the curriculum, [MA483](#) provides a different framework for conducting statistical inference. It acts as both an upper-level elective for those who are specializing in statistics as well as an alternate introductory course for those in disciplines that require only probability (such as computer science and electrical engineering).

The asynchronous days are not “days off.” In order to meet deadlines, students are expected to engage with material daily, as outlined in the course calendar. Asynchronous days also provide ample opportunity for me to meet with students to address questions over assignments. While some students prefer in-person meetings, I have a growing number that prefer engaging remotely. For some students, they enjoy the convenience of reaching out from their residence hall (or academic space) without needing to pack up and trek to my office. Others take advantage of receiving help when they are feeling ill. I enjoy being able to have students share their screen when debugging code. I also have noticed an increase in the number of students who prefer to correspond over Teams messages, sharing screen shots of work as necessary; I find this benefits students who are internal processors. It removes that additional, and unnecessary, anxiety that accompanies a feeling of needing to respond to my prompts immediately; instead, they take the time they need.

Dr. Reyes was always helpful and available outside of class which was much appreciated. (MA386 student)

MA386 Statistical Programming

[MA386](#) introduces students to the computational tools and skills necessary to operate at all stages of the “analysis pipeline.” This course is popular among students seeking a minor in Data Science as well as those in the biological sciences, as it prepares them for working with data in their own projects.

Each of these decisions has been in the pursuit of courses that add flexibility — flexibility that I hope removes the stress to perform in the midst of other demands and gives students space to enjoy the learning.

This is, by far, one of my favorite classes that I have ever taken at Rose. Dr. Reyes was definitely a large part in this class being so enjoyable - his teaching methods, availability for offering help, and general attitude made me feel excited to be engaged in the class...Course policies were clearly oriented to help me learn more than anything else. (MA482 student)

MA482 Biostatistics

The biological sciences often yield data that present unique challenges to analysis. A second course in statistics, [MA482](#) introduces these challenges and the statistical methods employed to overcome them.

My course design was influenced heavily by [universal design for learning](#) concepts, especially trying to promote accessibility. My syllabi include an infographic cover page that summarizes key policies; un-timed take-home assessments have eliminated testing accommodations; and, video lectures with captions allow students to take in the material at their pace. While I believe all students benefit from these policies, they do require discipline on the part of the student, and not all students respond well to the structure. The primary concern I hear is that students believe they are “teaching themselves” because I do not lecture regularly in class. This is particularly true in the introductory course.

I felt like I was teaching myself this course and had to put so much effort into just figuring out what I’m missing. (MA223 student)

The learning in the class is reliant heavily on the student. (MA223 student)

I design the learning opportunities, but I do not force the students to engage with them, and as a result, I admit that I do lose some students. Yet, I stick with this structure because it allows me to operate out of my strengths. I deliver good lectures, but I do not think I resonate best with students in that format. Especially over the past few years, I have found it challenging to

connect with students broadly. Examples from their discipline; stories from those in industry; personal experience; topics in social justice; even self-deprecating humor...these tactics that once drew students in are failing me. As a result, my lectures only reach those who are intrinsically motivated — a small percentage of students Transitioning away from lecture being at the forefront allows my class to rely heavily on multimedia, tutorials, and assignments crafted to encourage questions. And, I think I am better at constructing these resources than constructing lectures. My course structure provides time for me to engage with students on these assignments through a variety of media that I am very comfortable in (whether in person or on Teams messages, emails, etc.) and allows for ample time to give feedback on those assignments. And, this feedback is integral to the alternative grading structures that are fundamental to how learning takes place in my courses.

Even though I might have not gotten full credit on an assignment the first time, I was allowed to go back and read the feedback of where I went wrong, and resubmit again for full credit. I very much prefer this class structure because it actually encourages learning through mistakes... (MA223 student)

Essentially, I believe this structure capitalizes on my strengths as a *teacher* and minimizes the impacts of my failure as an *educator*. One shortcoming that my approach has highlighted is my compulsion to “reinvent the wheel.” In putting together resources for my students, I create things from scratch. I rarely rely on published texts or existing videos. I prefer to control the narrative, and that does take time. I have at times overcome my own ego in this regard; due to the speed at which the content changes, I rely on existing resources for MA386 Statistical Programming. However, I review and update the resources each time I teach the course.

As I consider my path, I would like to improve on how I advise senior capstone experiences. Some of my previous experiences have been amazing, but many more have fallen short of my expectations. In these instances, I have both failed to motivate the student to the benefits of these capstones and to provide the structure necessary to help them succeed (erring on the side of too much flexibility). For the past few months, I have worked with Megan Heyman on redesigning the senior capstone experience for students interested in Statistics. Fall 2024 will be our first time implementing the new structure; however, having approached this as a course design, and with Megan’s strengths in adding structure, I am already certain it will be an improvement.

During the summer of 2020, the Institute recognized the need for a coordinated response to teaching during the pandemic, both through delivering course content in alternate formats but also training faculty to design courses that leverage these modalities. Having taught online and served as our department’s Moodle mentor for a number of years, I was thrilled when Kay C Dee and Ella Ingram asked me to be a mentor for the Creating Adaptable Courses curriculum and the Y1 course creation efforts heading into the 2020-2021 academic year. We believed in this training effort so much that a group of us authored a book chapter (appearing in *Resilient Pedagogy: Practical Teaching Strategies to Overcome Distance, Disruption, and Distraction*) describing the curriculum for other course designers.

Being a part of the Creating Adaptable Courses curriculum also reminded me how much I enjoy supporting faculty course development. Over the following summers, I became more involved in the Fall Teaching Workshop for incoming faculty. At Ella's invitation, I led a session on backward design during the 2021 Workshop, and I have co-organized the 2022 (with Ella Ingram), 2023 (with Rich House), and 2024 (with Rich House and Aimee Cloutier) workshops. My largest contribution to the workshop has been working with Kay C Dee to transform the "Introduction to Moodle" session into an opportunity for new faculty to begin developing their course Moodle pages alongside senior faculty with whom they will be co-teaching. This experience can be rewarding to both incoming faculty (grateful to begin course prep) and senior faculty (integrating fresh perspectives of the new faculty). This is an example of where the *design*, not the implementation, is where I have had an impact. During the session, I answer a few questions, but I mostly just watch the magic happen.

Operating from My Strengths

While I have struggled to motivate students, I am at my best when designing the course. Those designs play to my strengths in remote engagement, but they are driven by flexibility.

2 Being Infected by the Curiosity of Others

I'll work hard I'll do my part; You won't hear me complain; I'll never go down easy; I swear I'll pull my weight.¹

I attended graduate school intent on entering industry; the primary reason I did not initially consider academia was my aversion to “research.” In general, I have struggled to find the drive required to plan and execute an agenda from idea through publication. Two examples illustrate this. Suppose we are interested in determining which characteristics recorded in a patient’s medical chart (potential predictors) are associated with experiencing a heart attack (the response); however, we might only have the patient’s family history for a subset of the study participants. Separating the characteristics associated with a response from those that are not is a process known as variable selection; and, as described in our example, we might be interested in doing this in the presence of missing data. For a number of years, I have nursed an idea of a general approach to this problem that merges techniques developed concurrently in separate areas of statistics. Several years ago, I even advised a senior capstone (Cody Roberts, 2015) in this area with promising results. However, I have not pursued the project, continuing instead to prioritize revisions to class materials or the development of new courses (or really any other work). During the 2022-2023 academic year, upon advice from a colleague, I reviewed the literature on how alternative grading can improve equity in the classroom. A student (Clara Place, 2025) helped me conduct a survey to better understand the experiences of historically underrepresented students with alternative grading at Rose-Hulman. I completed the paper, but it was rejected from the target journal; and, it has just sat since, me prioritizing day-to-day work.

While I have not developed a research agenda, I have remained active. We should expect faculty to continue to grow intellectually; for me, this growth is fueled by the curiosity of others. The most appealing aspect of Statistics for me has always been the ability to collaborate with researchers across a variety of disciplines. As an applied statistician, my passion is joining such collaborations, particularly in the biological sciences. The development of an appropriate analysis plan, the implementation of the analysis, and the communication of the results, all in the service of advancing the research being led by others is where I perform best. These opportunities invigorate me, enrich my classroom, have meaningful impacts, and contribute to my growth as a scholar.

¹From *The Nebraska Song* by Sawyer Brown. As I am sure my Department Head and others will attest, I am still working on the “not complaining” part!

! My Professional Mission as a Collaborator

To *collaborate* with researchers who want to make a difference.

i Note

As I am both a statistician and a professor, and my collaborations over the years have resulted in growth in both realms.

I am a huge proponent of alternative grading strategies² and could talk about them for hours³. Over the past several years, I have engaged in several opportunities to share my experience with others. This has included two workshops for Rose-Hulman faculty (the first co-led with John Mirth, the second co-led with Sylvia Carlisle), two invited contributions to the [Statistics Teaching and Learning Corner](#), a conference presentation with several Rose-Hulman colleagues (Emma Dosmar, Julia Williams, Rich House, and Sylvia Carlisle), and a wonderful collaboration with educators from several universities (Brenna Curley of Moravian University, Jillian Downey of Gustavus Adolphus College, Katherine M. Kinnaird of U.S. Air Force Academy and Smith College, and Adam Loy of Carleton College). This latest collaboration has resulted in a publication in the [Journal for Statistics and Data Science Education](#) and a workshop at the [US Conference on Teaching Statistics](#).

Through each of these experiences, the colleagues I have worked with have helped me refine my approach to grading. In fact, the regular meetings with my latest collaborators have become a high point in my schedule, providing a source of energy for tackling the difficult parts of teaching. These conversations have been so fruitful and so cathartic to each of us that our latest venture is launching a podcast for educators where we “talk through teaching tensions together” in an effort to share the various experiences educators have in tackling daily challenges in education like navigating the use of technology in the classroom. It was a great joy to see our hard work recognized in the acceptance of our paper; but, the greater joy (being the “senior” member of the group) was watching all four of my colleagues receive positive tenure decisions following its acceptance.

In addition to my position at Rose-Hulman, I hold the position of Adjunct Clinical Assistant Professor of Biostatistics & Health Data Science through Indiana University. This position supports my work with the Terre Haute branch of the Indiana University School of Medicine, which houses the [rural health scholarly concentration](#). Through this curriculum, medical students interested in practicing in rural areas gain valuable research skills by leading a research project in the Terre Haute community. The final deliverable for the project is a manuscript suitable for submission to a journal targeting rural medicine, and it provides an excellent topic of conversation during the students’ interviews for residency.

²I have documented several of my experiences on my [personal site](#) in hopes of benefiting others.

³On a recent road trip, my wife, and adjunct in our department, and I spent 8+ hours talking about grading!

The majority of projects conducted by medical students in this curriculum depend on surveying members of the community. Given the often limited statistical background of the medical students, the directors of the program (Robin Danek and Ellen Ireland) invited me to participate as a collaborator on these projects. My role on the team is to provide statistical expertise during the design of the survey, the development of an analysis plan, and in reporting the data. As a true collaborator, I am involved from the early stages of the project review. Through these projects, I have learned a lot about the challenges facing rural communities in regards to access to healthcare. I brought this experience back to Rose-Hulman when Jessica Livingston and I developed the [Social Justice and Statistical Concepts course](#). Being a part of the survey development and data analysis also provides rich contexts for the Biostatistics course. Specifically, my email exchanges with medical students have inspired a set of assignments asking students to use the course material to explain to medical students (in a language they will understand) why more complex analyses (than those learned in an introductory course) are needed to address their question of interest. Students often find this to be the most challenging assignments of the course. As they are led by medical students, these collaborations do not always result in publication; the project may end with their presentation to their peers. Small sample sizes often limit our analyses to graphical summaries; as we allow the medical students to take the lead when possible, this often means guiding them through choosing an appropriate way to summarize their data and the selection of appropriate software. However, other projects have been very successful, and these typically require more advanced analyses, beyond the capabilities of the student. In such cases, my role is to determine an analysis that addresses the primary research question and explain it and the results in a such a way that the medical student feels confident explaining it in their interviews.

In addition to working with the medical students, Dr. Robin Danek and I have also collaborated on a paper investigating the impact of gender on the differences in mental health treatment between patients in rural and urban communities. We are currently working on revisions for inclusion in the [Community Mental Health Journal](#); however, this project has already been beneficial to me. Through the project, I gained familiarity with the [National Survey on Drug Use and Health](#); this survey formed the basis of a senior capstone experience for a Biomathematics student, and it should make an excellent source for exploring questions in future senior capstones as well.

Operating as Part of a Team

While I continue to struggle with the false imagery of a researcher as a lone wolf, I have learned that I work best when I am a member of a team, inspired by the natural curiosity of my colleagues.

3 Relieving their Burden while Advancing their Vision

People may not remember exactly what you did, or what you said, but they will always remember how you made them feel.¹

Like many other new faculty, my service was initially defined by others; I served on the committees to which I was assigned, and I volunteered in my department when asked. I have come to believe that this view of “service” — an obligation to be fulfilled — leads only to faculty burn-out. When we serve in ways that make use of our particular gifts, we are more likely to find the role fulfilling, and it is ultimately more beneficial to the Institute. This does not mean that I never experience frustration in my service roles, and there will always be jobs that need to be done; just as there are bad days in the classroom, service can be draining. However, as I have learned to say “yes” to opportunities that complement my skillset, I have found service to be less burdensome and more rewarding.

I think my involvement with the Rose Show best encapsulates my perspective on service. Ashley Bernal is passionate about providing a space for students from all disciplines to showcase their work. She is the heart of the event. As a part of the planning committee for the Rose Show, my focus has been streamlining some administrative tasks so that Ashley can focus on the layout and the overall vision for the event. I moved the registration process to Moodle so we could capture information about each team automatically and all members of the planning team had access to the information; the electronic registration also allows us to automate the construction of the physical and [online programs](#). When Ashley had a vision for the [Innovation Award](#), I worked to put a system in place to collect video submissions from participants wishing to be considered. At each step, my goal has been to support Ashley’s vision for the event while operating out of my strengths.

! My Professional Mission as a Servant

To *serve* in roles where my administrative skills support the work of others.

My time on the Faculty Affairs Committee was interesting to say the least. During the Fall of my first year, the Board removed the President. Following the news, the faculty called a special meeting to discuss whether the board should forgo a national search in favor of appointing

¹Appearing in a news article by Bill Williams, adapting a quote from Carl W. Buehner, often misattributed to Maya Angelou

Rob Coons as president. Following the meeting, the chair of the Faculty Affairs Committee (Rebecca Dyer) and the Faculty Representative to the Board (Christine Buckley) met to draft a letter to the Board summarizing the faculty perspective. As I had volunteered to take notes during the meeting, I was present as they drafted the letter. I watched as these colleagues managed to succinctly summarize the varied thoughts of the faculty in a powerful endorsement to the board. I am proud to have played a small role in that letter, and I am fortunate to have seen a wonderful example of their setting aside personal opinions in service to their role as a representative of the broader faculty. As a member of Faculty Affairs, my primary contribution that year was taking point on drafting language for the Faculty Handbook to revise our policy on timing for tenure following family and medical leaves. The revisions were not mine; my role was to create language that both reflected the thoughts of faculty who saw the need for change and could be operationalized by the Department Heads who act as the first point of contact in these cases. I synthesized the ideas of others for the benefit of the larger community. I would learn this lesson again at the end of the year as we saw another administrative transition. Serving on the search committee for the Provost and Vice President of Academic Affairs, our task was not to provide our opinions on the next Provost but to summarize the qualifications of the candidates and the thoughts of the faculty to aid in the President's decision.

Believing that first year would be difficult to top, I served as chair of Faculty Affairs during the Winter and Spring terms of the 2019-2020 academic year. The examples I had seen of acting as a representative in that first year would prove to be useful as the Institute shifted to accommodate the COVID pandemic. The spring saw a shift to remote learning, and with that came apprehension about student well-being in the midst of both the pandemic and a new paradigm for learning. As a committee, our greatest accomplishment was passing a measure to allow students to take courses as pass/fail during the Spring term. It is rare to see such agreement in the faculty, and I can take no credit. My job was to steward the wonderful team we had and the ideas they generated. They put forward several options, and we needed to find new ways to disseminate those options and gather faculty input. We built a Teams site for the committee and developed a Moodle page for disseminating information to all faculty (both of which are still used today).

My third year on Faculty Affairs, I served as co-chair. People mistakenly believe chairing during the Spring of 2020 was difficult, but I maintain that Simon Jones had a more difficult job chairing during the 2020-2021 academic year. The unity we felt during the Spring of 2020 was much more tenuous during the following year. As the pandemic became more endemic, the variability in faculty opinions grew. Simon did a phenomenal job of leading us through that year. What I could offer was support. Amidst the discussions on our pandemic response, Simon and I were charged with drafting language for a “Professor of Practice” position to support a group of colleagues who did not fit into the traditional tenure-track line. In drafting this language, we did not start from scratch; we synthesized what we saw at other universities in a way that addressed the needs of our Institute. While I was not a part of Faculty Affairs the following year, I hope the document we produced was helpful to those who crafted what eventually became the “Reoccurring Appointment.”

I have recently completed a term as the Faculty Representative to the Board of Trustees. The Faculty Handbook says almost nothing about this role, and that lack of clarity led to a lot of misunderstanding among faculty, the President, and the Board. Building on work started the previous year (when Adam Nolte was the Faculty Representative), Ashley Bernal, Scott Tieken, and I worked with President Coons to draft a document that operationalized the description in the Faculty Handbook. It provides clarity on the actual duties of the representatives in communicating with the President and the Board of Trustees and sets out agreed upon timelines for conducting the annual climate survey. The annual survey was both the part where I felt most at ease and the most emotionally draining. While we perceive student comments to be brutal, faculty comments can be demoralizing. What I enjoyed was not reading through the comments but finding ways to condense them down to meaningful feedback for the Cabinet and the Board. Like Faculty Affairs, my time in this position provided an entirely different perspective on the Institute. It was a joy to stand before the board and showcase the hidden stories of what faculty do on a regular basis to make Rose a success. At the same time, balancing those stories to the Board while simultaneously clearly expressing concerns felt by faculty to the Cabinet was extremely challenging. I still worry about whether my responses to the Board clearly communicated the broader faculty sentiment.

While I leveraged my gifts in choosing how to serve on Faculty Affairs and as the Faculty Representative, both positions were elected. Where I have had more freedom in designing my service on campus has been through assessment. Since the Fall of 2019, I have been our departmental representative to the Committee for the Assessment of Student Outcomes. When I joined, the committee was in the midst of crafting the rubrics for the [Institute Student Learning Outcomes](#). I quickly learned that assessment offers an opportunity to ask the “big questions” that I enjoy discussing (like what does it mean to “collaborate”; and, do we teach critical thinking or do we teach discipline skills and expect critical thinking to develop as a by-product). As the representative to CASO, it was natural for me to serve on our departmental committee (with Kenji Kozai, Manda Riehl, Josh Holden, and Bill Butske) in drafting program learning outcomes for Mathematics. As our program is not accredited by an external agency (like ABET), our department did not have an assessment plan in place. Once the department had approved an assessment plan, I agreed to chair the [Mathematics Assessment Group for Program Improvement](#), our department’s committee for overseeing program assessment. My administrative skills helped to create a repository for our process, including the collection of artifacts, but the real work has been (alongside team members David Finn and Rachel Petrik) synthesizing the many varied opinions within our department to create actionable steps to improve the assessment of the program.

One area where we could improve as a faculty body, myself included, is transition. We serve in positions and then move on, often leaving the individuals who rotate into those positions no direction. In many instances, the Faculty Handbook provides little guidance on navigating a specific role. I am concerned this exacerbates faculty burn-out; it might signal the role, or the individual, has such little importance that we are unwilling to provide adequate support. Despite recognizing this, I have been slow to improve how I handle transitions. As the outgoing chair of Faculty Affairs, I created a transition document for the next chair, outlining key

dates to keep in mind, initiatives we had not yet completed, and notes about some of the unanticipated responsibilities. A similar document for the Faculty Representative to the Board position described my thoughts on the position and navigating the vague nature of the position. Helping one another enter a position should be a part of our service, as should knowing when to step aside.

In deciding whether to seek a promotion, I surveyed colleagues on my strengths and areas of needed improvement. The most common advice I received was that I am over-extended. Of course, that could be the polite way of conveying the other concern that was communicated to me through other channels: I have an ego. If we believe we are the only one who has a solution, we are bound to seek the spotlight; I am still learning how to step aside. Within our department, my primary area of service for a number of years involved the registration system for the High School Math Contest. I jumped into that position because I saw the burden it was taking on our administrative assistant at the time, and I thought there had to be an easier way. I did what I could to streamline the process by using an online tool for collecting registrations electronically and writing a program to process changes to the registration quickly so that we could create answer sheets for participants the morning of the competition. My stepping out of that role allowed someone else (Kyle Claassen) to elevate that platform to a level that I could not have accomplished. I needed to let go so that someone else could use their skills to their fullest potential; I could stand to do that more often.

Operating in Places that Complement My Interests and Gifts

I am learning to align my service with my interests and gifts, which requires me to remind myself regularly that I am not the best person for every job. I define success not by whether someone is aware of my actions, but whether those I served, or served alongside, experienced a moment of calm because their burden was a little lighter.

4 What's In a Name?

Your identity is your most valuable possession. Protect it.¹

My degree is in Statistics. I teach Statistics courses, apply statistical methods to advance the research of others, and collaborate and serve within the Statistics Education community. I belong to the American Statistical Association. I am a Statistician...and, I happen to be housed in the Department of Mathematics. I am not a Mathematician (and I fear that if my colleagues pressed my mathematical knowledge, they would revoke my undergraduate degree).

While I understand it is a bold request, if you determine my portfolio warrants promotion, I ask that you consider promoting me to “Professor of *Statistics*.[”]

I understand this would be unprecedented within the Department of Mathematics. I can appreciate the need for rules, and I respect the argument against such a title: we do not offer a program in Statistics; it might signal a “separation” from colleagues in my department and promote disunity; some see Statistics as a sub-discipline of Mathematics instead of a separate discipline. And still, I believe a change in title would more accurately reflect both my expertise and my contributions within the Institute and more broadly.

I appreciate your consideration.

¹Holly Hunter as Helen Parr (Elastigirl) in *The Incredibles*.

A Curriculum Vitae

Eric Reyes

Assistant Professor | Department of Mathematics (Updated: August 2017)

CONTACT INFORMATION	Eric Reyes Assistant Professor 5500 Wabash Avenue Rose-Hulman Institute of Technology Department of Mathematics Terre Haute, IN 47803	Phone: 812.877.8287 Email: reyesem@rose-hulman.edu Website: reyesem.github.io
EDUCATION	Ph.D. in Statistics (2012) North Carolina State University, Raleigh NC - Dissertation Title: <i>Complete Least Squares: A New Variable Screening and Selection Method</i> - Advisors: Dennis Boos and Len Stefanski	
	Master of Statistics (2008) North Carolina State University, Raleigh NC - Concentration: Biomedical Statistics	
	B.S. in Mathematics and Economics (Summa Cum Laude, 2006) Rose-Hulman Institute of Technology, Terre Haute IN	
ACADEMIC EXPERIENCE	Assistant Professor of Mathematics Rose-Hulman Institute of Technology, Terre Haute IN Department of Mathematics - Teach lower and upper level statistics courses - Convener of the Statistics and Operations Research curriculum development group	Aug 2012 – Present
	Teaching Assistant North Carolina State University, Raleigh NC Department of Statistics Introductory Statistics Course - Conducted review sessions and held office hours - Prepared course notes for students - Conducted lectures - Wrote and graded exams	Jan 2008 – Aug 2008
COMPUTING SKILLS	Expertise: R, SAS (including macro language), Minitab, L ^A T _E X Word, Excel, Powerpoint Working Knowledge: WinBUGS, Camtasia Studio, Panopto, HTML	

UNDERGRADUATE COURSES TAUGHT	Engineering Statistics I (Multiple Terms Each Year) Engineering Statistics II (Last Taught: Fall 2013) Probability (Last Taught: Winter 2016) Statistical Programming (Last Taught: Fall 2016) Mathematical Statistics (Last Taught: Winter 2016) Bioengineering Statistics (Last Taught: Spring 2017) Applied Regression Analysis and Introduction to Time Series (Last Taught: Winter 2015) Special Topics: Introduction to Bayesian Inference (Last Taught: Fall 2014)
RESEARCH INTERESTS	Variable selection and screening Statistics education Applications of statistics to the medical field
PUBLICATIONS	<p>Small SR, Rogge RD, Malinzak RA, Reyes EM, Cook PL, Farley KA, Ritter MA. "Micromotion at the tibial plateau in primary and revision total knee arthroplasty: fixed <i>versus</i> rotating platform designs." <i>Bone & Joint Research</i>. (2016) 5:122-129.</p> <p>Koshizaka M, Lopes RD, Reyes EM, Gibson CM, Schulte PJ, Hafley GE, Hernandez AF, Green JB, Kouchoukos NT, Califf RM, Ferguson TB, Peterson ED, Alexander JH. "Long-term clinical and angiographic outcomes in patients with diabetes undergoing coronary artery bypass graft surgery: Results from the PProject of Ex-vivo Vein graft ENgineering via Transfection IV Trial." <i>American Heart Journal</i>. (2015) 169(1):175-184.</p> <p>Thomas L, Reyes EM. "Tutorial: Survival Estimation for Cox Regression Models with Time-Varying Coefficients." <i>Journal of Statistical Software</i>. (2014) 61:1-23.</p> <p>van Diepen S, Brennan JM, Hafley GE, Reyes EM, Allen KB, Ferguson TB, Peterson ED, Williams JB, Gibson CM, Mack MJ, Kouchoukos NT, Alexander JH, Lopes RD. "Endoscopic Harvesting Device Type and Outcomes in Patients Undergoing Coronary Artery Bypass Surgery." <i>Annals of Surgery</i>. (2014) 260(2):402-408.</p> <p>Shen L, Shah BR, Reyes EM, Thomas L, Wojdyla D, Diem P, Leiter LA, Charbonnel B, Mareev V, Horton ES, Haffner SM, Soska V, Holman R, Bethel MA, Schaper F, Sun JL, McMurray JJV, Califf RM, Krum H. "Role of Diuretics, β Blockers, and Statins in Increasing the Risk of Diabetes in Patients with Impaired Glucose Tolerance: Reanalysis of Data from the NAVIGATOR Study." <i>British Medical Journal</i>. (2013) 347:f6745 doi: 10.1136/bmj.f6745.</p> <p>Reyes EM and Thomas LE. "Chapter 15: Analytical Methods of Addressing Confounding." In: <u>Understanding Clinical Research</u>. Editors: Lopes RD and Harrington RA. McGraw-Hill Education. (2013) ISBN/ISSN:9780071746786</p> <p>Reyes EM, Ghosh SK. "Bayesian Average Error Based Approach to Sample Size Calculations for Hypothesis Testing." <i>Journal of Biopharmaceutical Statistics</i>. (2013) 23(3):569-588.</p> <p>Kohli P, Wallentin L, Reyes E, Harrow J, Husted S, angiolillo DJ, Ardissino D, Mauer G, Morais J, Nicolau JC, Oto A, Storey RF, James SK, Cannon CP. "Reduction in First and Recurrent Cardiovascular Events with Ticagrelor Compared with Clopidogrel in the PLATO Study." <i>Circulation</i>. (2013) 127:673-680.</p>

Reyes E, Harrington RA, Pieper KS. "Chapter 17.1: Basic statistics and Analysis for the Interventional Cardiologist." In: Cardiac Catheterization and Interventional Cardiology Self-Assessment Program. American College of Cardiology. (2013)

Lopes RD, Williams JB, Mehta RH, **Reyes EM**, Hafley GE, Allen KB, Mack MJ, Peterson ED, Harrington RA, Gibson CM, Califf RM, Kouchoukos NT, Ferguson TB, Lorenz TJ, Alexander JH. "Edifoligide and Long-Term Outcomes After Coronary Artery Bypass Grafting: Project of Ex-vivo Vein graft ENgineering via Transfection IV (PREVENT IV) 5-Year Results." *American Heart Journal*. (2012) 164(3):379-386.e1.

Reyes EM, Pieper KS, Harrington RA. "Chapter 41: Statistics Related to Interventional Cardiology Procedures." In: 1001 Questions: An Interventional Cardiology Board Review. Editors: Mukherjee D, Cho L, Moliterno DJ. Lippincott Williams & Wilkins. (2011) ISBN/ISSN: 9781451112993

Kociol RD, Horton JR, Fonarow GC, **Reyes EM**, Shaw LK, O'Connor CM, Felker GM, Hernandez AF. "Admission, Discharge, or Change in BNP and Long-Term Outcomes: Data from OPTIMIZE-HF Linked to Medicare Claims." *Circulation: Heart Failure*. (2011) 4(5):628-636.

Koval KW, Setji TL, **Reyes E**, Brown AJ. "Higher High-Density Lipoprotein Cholesterol in African-American Women with Polycystic Ovary Syndrome Compared with Caucasian Counterparts." *Journal of Endocrinology and Metabolism*. (2010) 95(9):E49-53.

Pandya SB, Kim YH, Meyers SN, Davidson CJ, Flaherty JD, Park DW, Mediratta A, Pieper K, **Reyes E**, Bonow RO, Park SJ, Beohar N. "Drug-Eluting Versus Bare-Metal Stents in Unprotected Left Main Coronary Artery Stenosis: A Meta-Analysis." *Journal of the American College of Cardiology, Cardiovascular Interventions*. (2010) 3(6):602-611.

PEER REVIEWED
CONFERENCE
ABSTRACTS Sutterer B, **Reyes EM**, Berend ME, Small S, Rogge RD. "An Investigation of the Relationship between Plantar Weight Distribution and the Condition of Osteoarthritic Knees During Quiet Standing." Presented at Orthopaedic Research Society 2015 Annual Meeting.

Shen L, Shah BR, **Reyes EM**, Thomas L, Diem P, Leiter LA, Charbonnel B, Mareev V, Horton E, Haffner SM, Soska V, Holman R, Bethel A, Schaper F, Sun JL, McMurray J, Calif R, Krum H. "Do Diuretics, Beta-Blockers, and Statins Increase the Risk of Diabetes in Patients with Impaired Glucose Tolerance? Insights from the NAVIGATOR Study." *Circulation*. (2012) 126:A14642 Presented at 2012 AHA Scientific Sessions.

Lucas BD, Broce M, Mehta RH, **Reyes EM**, Alexander JH. "No Evidence of Cardiovascular Harm of Nonsteroidal Anti-Inflammatory Use During Coronary Artery Bypass: Post-hoc Results from Two Large Multicenter Randomized Trials." *Circulation*. (2011) 124:A12945 Presented at 2011 AHA Scientific Sessions.

WORKING PAPERS Small SR, Rogge RD, Reyes EM, Seale RB, Elliott JB, Deffenbaugh D, Malinzak RA. "Primary Stability of the Tibial Tray in Uncemented TKA: Biomechanical Comparison of Porous Ingrowth Surfaces." Status: *Draft complete, circulating to co-authors for feedback*.

Reyes EM, Evans D. "Effects of Exam Design on Test Anxiety and Performance." Status: *Analysis complete, writing first draft.*

Reyes EM, Boos DD, Stefanski LA. "Complete Least Squares." Status: *Initial draft complete, requires rewrite.*

Reyes EM, Roberts C. "A Unified Approach for Variable Selection in the Presence of Missing Data via Least Squares Approximation." Status: *Early stages.*

PRESENTATIONS *Tuning Variable Selection via Noise When Prediction is Not the Primary Objective*

Joint Statistical Meetings
Baltimore MD (Aug 2017)

Specifications Grading in a Statistics Classroom
Half-Day Workshop
US Conference on Teaching Statistics
State College PA (May 2017)

Life Lessons from a Young(ish) Professor
Conference Celebrating 75 Years of the Department
North Carolina State University
Raleigh NC (Oct 2016)

Choosing to be an Outlier in a Mathematics Department
Panelist
Joint Statistical Meetings
Chicago IL (Aug 2016)

Specifications Grading in a Statistics Classroom
Round Table Discussion
Joint Statistical Meetings
Chicago IL (Aug 2016)

Unified Approach to Variable Selection in Missing Data via Least Squares Approximation
Joint Statistical Meetings
Seattle WA (Aug 2015)

Six Sigmas of Separation: Strategies for Making Inter-Disciplinary Connections
with Dr. Diane Evans (Rose-Hulman Institute of Technology)
US Conference on Teaching Statistics
State College PA (May 2015)

Engaging Intro Statistics Students with Activities
Half-Day Workshop with Dr. Diane Evans (Rose-Hulman Institute of Technology)
US Conference on Teaching Statistics
College Station PA (May 2015)

Name-Brand vs. Off-Brand: A Twist on Taste Testing for a Mathematical Statistics Course
Joint Statistical Meetings
Boston MA (Aug 2014)

Engineering a Statistical Model: An Activity for an Engineering Statistics Course
Poster Presentation (*peer reviewed*)
US Conference on Teaching Statistics
Research Triangle Park, NC (May 2013)

Bayesian Average Error Based Approach to Sample Size Calculations (with an introduction to constructing R packages)
Department of Statistics, Bayesian Seminar Series
North Carolina State University
Raleigh NC (Sep 2011)

Bayesian Average Error Based Approach to Sample Size Calculations for Hypothesis Testing
ENAR Spring Meeting
Miami FL (Mar 2011)

Bayesian Average Error Based Approach to Hypothesis Testing and Sample Size Determination
Poster Presentation
Midwest Biopharmaceutical Statistics Workshop
Charlie Samson Poster Award
Muncie IN (May 2010)

Introduction to the Use of Inverse Probability Weighting via Propensity Scores
Statistics Working Group Educational Meeting
Duke Clinical Research Institute
Durham NC (Apr 2010)

Introduction to Principal Stratification
Department of Statistics, Student Seminar Series
North Carolina State University
Raleigh NC (Oct 2009)

Overview of Variable Selection Methods
Statistics Working Group Educational Meeting
Duke Clinical Research Institute
Durham NC (May 2009)

Do Dogs Really Know Calculus?
Rose-Hulman Undergraduate Mathematics Conference
Terre Haute IN (Mar 2006)

STUDENT	PIC Math Project, Mariana Lane (2017)
RESEARCH	Client: 84.51
DIRECTED	Jointly supervised the project with Dr. Christina Selby
	<i>Using Retailer Transaction Data to Assess the Benefit of Marketing</i>
	Mathematics Senior Project, Ruinan (Victor) Zhang (2017)
	Client: SMARI
	<i>Statistical Methods for Market Research</i>
	Mathematics Senior Thesis, Aaron Brown (Incomplete)
	<i>Assumption of Normality in the Introductory Course</i>

Mathematics Senior Thesis, **Xiaomo Wang** (Incomplete)
Variable Selection through Addition of Noise when Prediction is Not Primary Goal

Mathematics Senior Project, **Amy Kamperman** (2016)
Client: Joint Replacement Surgeons of Indiana
Analysis of Tibial Micromotion, Phase 3

Computer Science Thesis, **Wenjun (Kathy) Kong** (2016)
1st Place: CAUSE Undergraduate Research Project Competition (USRESP), Methodological Research Subcategory
Feature Screening in the Presence of Nonlinear Relationships

Mathematics Senior Thesis, **Cody Roberts** (2015)
A Unified Approach to Variable Selection in the Presence of Missing Data

Class Project / Individual Research, **Lorena Maxwell** (MA 2015)
2nd Place: CAUSE Undergraduate Class Project Competition (USCLAP)
Bayesian Analysis of Gender Bias in Jury Selection

Mathematics Senior Project, **Lorena Maxwell** (2015)
Nonlinear Modeling Framework for Estimating Young's Modulus from Stress-Strain Curves

Mathematics Senior Thesis, **Kimberly Boucher** (Incomplete)

Mathematics Senior Project, **Devon Hardman** (2013)
Client: BD Technologies
Honorable Mention, CAUSE Undergraduate Research Project Competition (USRESP)
An Application of Nonlinear Mixed Effects Models to Cell Culturing Studies to Assess the Efficacy of Various Media

COMMITTEE MEMBER, Biomedical Engineering, **Sonia Sanchez** (Expected: 2018) Advisor: Renee Rogge *TBA*
MASTER'S THESIS Biomedical Engineering, **Anderson Adams** (2015) Advisor: Renee Rogge *A Comparative Evaluation of Cadaveric and Composite Femur Models for Total Hip Arthroplasty*

Biomedical Engineering, **Brian Sutterer** (2014)
Advisor: Renee Rogge *An Investigation of the Relationship Between Plantar Weight Distribution and the Condition of Osteoarthritic Knees During Quiet Standing*

Biomedical Engineering, **Cody Austin** (2013)
Advisor: Glen Livesay
Winner, Rose-Hulman Most Outstanding Master's Thesis
The Effect of Loading Orientation on the Structural Properties of the Anterior Cruciate Ligament

CONSULTING EXPERIENCE	Statistical Consultant	Nov 2015 – Present
	Joint Replacement Surgeons of Indiana, Rose-Hulman Lab	
	<ul style="list-style-type: none"> - Statistical consulting with biomedical engineers - Analysis of clinical datasets collected at the JRSI lab on the Rose-Hulman campus - Analytical techniques included mixed effects models and estimation through generalized estimating equations for repeated measures - Author statistical sections for articles and abstracts 	
	Reviewer	May 2017 – Jun 2017
	CRC Press	
	<ul style="list-style-type: none"> - Reviewed textbook chapters and provided feedback 	
	Independent Consultant	Aug 2013 – Aug 2014
	John Wiley & Sons, Inc., Higher Education	
	<ul style="list-style-type: none"> - Create video lectures on statistical concepts to be used with textbook 	
	Statistical Consultant	Feb 2012 – Dec 2012
	Duke Clinical Research Institute, Durham NC	
	Clinical Trial Statistics	
	via Kelley Services	
	<ul style="list-style-type: none"> - Statistical consulting with clinicians and statisticians - Analysis of clinical datasets - Analytical techniques include survival analysis, propensity scores, predictive modeling - Author statistical sections for articles and abstracts 	
	Intern, Secondary Manuscripts	Sep 2006 – Dec 2011
	Duke Clinical Research Institute, Durham NC	
	Clinical Trial Statistics	
	<ul style="list-style-type: none"> - Statistical consulting with clinicians and statisticians 	
GRANTS	Rose-Hulman KEEN Course Development Grant (Summer 2016) <i>Incorporating Entrepreneurial Minded Learning through Data Science in a Statistical Programming Course</i> Amount: \$5000	
	Rose-Hulman Multimedia Grant (Summer 2013) <i>Data to Decisions: A Video Series for Enhancing Engineering Statistics</i> Amount: \$5000	
HONORS, PROFESSIONAL MEMBERSHIPS	Member: American Statistical Association Member: Mathematical Association of America Graduate School: Charlie Sampson Poster Award Winner (MBSW 2010) Graduate School: Trainee in NHLBI Integrated Biostatistical Training Program for CVD Research Undergraduate: Mu Sigma Rho	
SERVICE ACTIVITIES	Departmental Service Convener: Statistics and Operations Research Curriculum Group (AY 14-15, 15-16, 16-17) Advisor: Area Minor in Statistics (AY 15-16, 16-17) Member: Data Science Curriculum Core Group (AY 15-16, 16-17) Member: Undergraduate Math Conference Committee (AY 15-16, 16-17)	

Member: Department Hiring Committee (AY 15-16)
Co-Organizer: Undergraduate Math Conference (AY 14-15)
Registration: High School Math Contest (AY 15-16, 16-17)

Institutional Service

Member: Committee on Animal Care and Use (AY 15-16, 16-17)
Member: Quality of Education Committee (AY 13-14, 14-15)
Member: Subcommittee on Academic Misconduct (AY 14-15)
Faculty Advisor: InterVarsity Christian Fellowship

Professional Service

Reviewer: Rose-Hulman Undergraduate Mathematics Journal
Member: ASA-MAA Joint Committee on Statistics Education (Jan 2016 - Dec 2017)

B Faculty Activity Reports

FACULTY ACTIVITY REPORT 2013

Rose-Hulman Institute of Technology

Name: Eric Reyes

Title: Assistant Professor of Mathematics

TEACHING, STUDENT ADVISING AND CURRICULUM DEVELOPMENT

COURSES TAUGHT

<u>Quarter</u>	<u>Course Name and Number</u>	<u>Enrollment</u>
201310	MA223-01 Engineering Statistics I	28
	MA223-02 Engineering Statistics I	29
201320	MA223-03 Engineering Statistics I	25
	MA223-04 Engineering Statistics I	28
201330	MA481-01 Mathematical Statistics	5
	MA223-01 Engineering Statistics I	12
	MA223-02 Engineering Statistics I	25
	MA482-01 Bioengineering Statistics	10
201340	MA494-03 Senior Project III	1
	MA223-01 Engineering Statistics I	14

COURSE DEVELOPMENT

COURSE

Developed MA482 (Bioengineering Statistics) to include 80% new material comprised of 4 new units (nonlinear modeling, survival analysis, missing data methods, and causal inference); this adds a great deal of breadth to the course for ABBE students (the primary audience, for which the class is cross-listed). Each unit consisted of a capstone case study, for which students were asked to apply the methods to a real-world dataset and then write a report detailing their methodology and conclusions. Each unit concluded with a webinar led by off-campus guest lecturers (from pharmaceutical and academic research companies).

Reworded the course learning objectives for MA223 to make use of current recommendations for well written learning objectives. Specifically, the objectives have been written to indicate to students how they will be assessed on each objective, and have been connected to sections within the newly adopted text.

ADVISING

OTHER

Advisee Count: 1

Advised Devon Hardman (MA) on her mathematics senior project. We received data from BD Technologies (Research Triangle Park, NC) involving results from a cell culturing study. Devon applied non-linear modeling techniques to develop a model for cell growth. This represented a new application of this methodology that greatly improved upon the standard in the field. Devon's results were received well by the company.

Devon presented her results at the Rose-Hulman Undergraduate Mathematics Conference. Devon also presented her results in a poster session of the Midwest Biopharmaceutical Statistics Workshop (Muncie, IN) in May, which is attended by major pharmaceutical companies in the area.

Devon's final report received an honorable mention in the CAUSE Undergraduate Research Project competition, a national competition for research in statistics conducted by undergraduates.

THESIS ADVISEES

Advisee Count: 1

Committee Member for Cody Austin, Master's thesis for Biomedical Engineering titled "The Effect of Loading Orientation on the Structural Properties of the Anterior Cruciate Ligament." Cody received the award for Most Outstanding Master's Thesis.

THESIS ADVISEES

Advisee Count: 1

Committee Member for Brian Sutterer, Master's thesis for Biomedical Engineering. Advising Brian on the design of the clinical trial and analysis of resulting data. The data are part of his senior thesis.

PROFESSIONAL DEVELOPMENT ACTIVITIES

PROFESSIONAL DEVELOPMENT

PUBLICATIONS

BOOKS PUBLISHED

Cardiac Catheterization and Interventional Cardiology Self-Assessment Program

Lead author for "Chapter 17.1: Basic Statistics and Analysis for the Interventional Cardiologist." This book is sponsored by the American College of Cardiology.

Understanding Clinical Research

Lead author for "Chapter 15: Analytical Methods of Addressing Confounding." pg 209-226. Editors: Renato Lopes and Robert Harrington. This text was used as the foundation for the last unit in the MA482 (Bioengineering Statistics) course.

PAPERS PUBLISHED

Bayesian Average Error Based Approach to Sample Size Calculations for Hypothesis Testing, Journal of Biopharmaceutical Statistics

This methodology has applications to designing biomedical studies, similar to those discussed in MA482 (Bioengineering Statistics).

Reduction in First and Recurrent Cardiovascular Events with Ticagrelor Compared with Clopidogrel in the PLATO study., Circulation

Lead statistician on clinical paper. This was consulting work I did for Duke Clinical Research Institute. This paper was discussed in a webinar in MA482 (Bioengineering Statistics).

PAPERS SUBMITTED

Tutorial: Survival Estimation for Cox Regression Models with Time-Varying Coefficients Using SAS and R., Journal of Statistical Software

SEMINARS

CONFERENCE PRESENTATION

Engineering a Statistical Model: An Activity for an Engineering Statistics Course, US Conference on Teaching Statistics

I presented an active-learning activity I developed for MA223 (Engineering Statistics I) that highlights the application of statistics to engineering modeling. The activity is based on an example in ES201 (Conservation and Accounting Principles).

CONFERENCES ATTENDED

Attended RHIT, Mathematical Association of AmericaRose-Hulman Undergraduate Mathematics Conference

Advised Devon Hardman's senior project, which was presented at this conference.

Attended OTHER, American Statistical AssociationMidwest Biopharmaceutical Statistics Workshop

Advised Devon Hardman's senior project, which was presented at a poster presentation at the conference.

OTHER

COURSE PARTICIPATION

Survival Analysis for Multiple Endpoints

Short course offered during Midwest Biopharmaceutical Statistics Workshop.

OTHER

Data to Decisions: A Video Series for Enhancing Engineering Statistics, RHIT Multi-Media Grant

The grant supported the development of five 40-minute videos that each explore a case study. The case studies cover the five primary applications of statistics discussed in MA223 (Engineering Statistics I). The videos act as a capstone review for the course and allow students to review material for which MA223 is a pre-requisite. In addition, an interactive online lab was developed to aid in review toward the end of the course.

NON FUNDED RESEARCH

Complete Least Squares with Applications to Variable Screening

Developed a new statistical estimation method for linear regression. This method allows estimates to be constructed for high-dimensional big data (when there are more factors than subjects). This estimation method was applied to develop a new method of screening out unimportant variables prior to the application of a variable selection method. That is, this aids in determining which factors are important for predicting a given response in linear regression. Draft in progress.

RESEARCH PROFILE

Scholarship statistics, variable selection
Subject

Study Area I am interested in the application of statistics to medicine. In particular, I focus on variable selection - determining which factors (variables) are associated with a particular response. I am investigating a new method for variable selection in the presence of missing data, as well as variable screening prior to variable selection when the number of factors exceeds the sample size.

Keywords Biomedical Research, Multidisciplinary Statistics

PROFESSIONAL SERVICE ACTIVITIES

COMMITTEES

DEPARTMENTAL

Statistics and Operations Research Curriculum Development Group, MA (Member)

PROFESSIONAL SERVICE

ON CAMPUS SERVICE

Freshman Laptop Orientation

Led session.

High School Mathematics Competition

Helped set-up for the event, meet with high-school teachers who brought students, grade the exam, and distribute prizes.

OTHER

InterVarsity Leadership Training Retreat

Acted as the faculty representative and traveled with InterVarsity Christian Fellowship on a leadership training overnight retreat.

FACULTY ACTIVITY REPORT 2014

Rose-Hulman Institute of Technology

Name: Eric Reyes

Title: Assistant Professor of Mathematics

TEACHING, STUDENT ADVISING AND CURRICULUM DEVELOPMENT

COURSES TAUGHT

<u>Quarter</u>	<u>Course Name and Number</u>	<u>Enrollment</u>
201410	MA223-02 Engineering Statistics I	31
	MA223-03 Engineering Statistics I	31
	MA383-01 Engineering Statistics II	9
	MA496-05 Senior Thesis I	1
201430	BE482-01 Bioengineering Statistics	1
	MA223-05 Engineering Statistics I	31
	MA223-06 Engineering Statistics I	29
	MA482-01 Bioengineering Statistics	4

General Comments

Family Medical Leave during Winter Term (AY 2013-2014)

COURSE DEVELOPMENT

COURSE

A new module, representing a change to 20% of the content, was added to MA482/BE482 Bioengineering Statistics to introduce statistical models for repeated measures data. On multiple occasions, students in other departments have brought analysis problems to my attention involving repeated measures, which was not currently covered in any of our courses. As this setting occurs often in biomedical applications, it seemed appropriate to introduce the material in Bioengineering Statistics.

ADVISING

OTHER

Advisee Count: 3

Advised Kimberly Boucher (MA) on her mathematics senior thesis during the Fall and Winter terms. This project was not completed; Kimberly accepted a position prior to graduating and has yet to complete the requirements for graduation (her senior thesis).

Advised Garrett Meyer (ME) regarding the analysis of various data gathered during the assessment of the Human Powered Vehicle design. The analyses were used to consider improvements to the design prior to competition.

Conducted an analysis on behalf of Ali Almajed (CSSE) describing the distribution of image characteristics. This was used in his senior project developing a method of classifying images taken during sunset.

THESIS ADVISEES

Advisee Count: 1
Committee Member for Brian Sutterer, Master's thesis for Biomedical Engineering titled "An Investigation of the Relationship Between Plantar Weight Distribution and the Condition of Osteoarthritic Knees During Quiet Standing."

PROFESSIONAL DEVELOPMENT ACTIVITIES

PROFESSIONAL DEVELOPMENT

PUBLICATIONS

PAPERS PUBLISHED

Role of Diuretics, Beta-Blockers, and Statins in Increasing the Risk of Diabetes in Patients with Impaired Glucose Tolerance: Reanalysis of Data from the NAVIGATOR Study, British Medical Journal (BMJ)

Statistician on clinical paper. This was consulting work I did for Duke Clinical Research Institute.

SEMINARS

CONFERENCES ATTENDED

Attended RHIT, Mathematical Association of AmericaRose-Hulman Undergraduate Mathematics Conference

Attended OTHER, Consortium for the Advancement of Undergraduate Statistics Education (CAUSE)Electronic Conference on Teaching Statistics

WORKSHOPS ATTENDED

Rose-Hulman Training for Online and Blended Courses, Rose-Hulman Institute of Technology

OTHER

COURSE PARTICIPATION

Applying the QM (Quality Matters) Rubric

I completed the online course teaching the fundamentals of using the Quality Matters rubric. Many of these ideas have been implemented in my face-to-face courses as a result.

NON FUNDED RESEARCH

Complete Least Squares with Applications to Variable Screening

Extended previous results regarding Complete Least Squares, a statistical estimation method for linear regression. The extension accounts for non-linear relationships both between the response and predictors as well as between the predictors. This has applications to variable screening.

Variable Selection in Missing Data

Developed a program for performing variable selection in the presence of missing data. Cody Roberts (MA) will continue work on testing the methodology as a senior thesis during the upcoming academic year.

RESEARCH PROFILE

Scholarship statistics, variable selection, statistics education

Subject

Study Area I am interested in the application of statistics to medicine. In particular, I focus on variable selection - determining which factors (variables) are associated with a particular response. I am investigating a new method for variable selection in the presence of missing data, as well as variable screening prior to variable selection when the number of factors exceeds the sample size. I have also taken an interest in statistics education, regarding best practices for conveying statistical concepts.

Keywords Biomedical Research, Multidisciplinary Education/Instructional Programs Educational Evaluation/Assessment Educational Improvement Statistics

PROFESSIONAL SERVICE ACTIVITIES

COMMITTEES

DEPARTMENTAL

Statistics and Operations Research Curriculum Development Group, MA (Member)

INSTITUTIONAL

Quality of Education (Member)

PROFESSIONAL SERVICE

ON CAMPUS SERVICE

High School Mathematics Competition

Helped set-up for the event, meet with high-school teachers who brought students, grade the exam, and distribute prizes.

Rose-Hulman Undergraduate Mathematics Conference

Helped set-up for the event and distribute snacks.

REVIEWER

Journal Articles, Rose-Hulman Undergraduate Mathematics Journal

Reviewed article with significant statistical content.

Faculty Activity Report 2015

Rose-Hulman Institute of Technology

Eric Reyes

Assistant Professor of Mathematics

TEACHING, STUDENT ADVISING AND CURRICULUM DEVELOPMENT

COURSES TAUGHT

<u>Quarter</u>	<u>Course Name and Number</u>	<u>Enrollment</u>
201510	MA223-01 Engineering Statistics I	22
201510	MA223-02 Engineering Statistics I	28
201510	MA480-01 Bayesian Statistics	9
201510	MA496-03 Senior Thesis I	1
201520	MA223-01 Engineering Statistics I	26
201520	MA223-02 Engineering Statistics I	25
201520	MA481-01 Mathematical Statistics	8
201520	MA497-03 Senior Thesis II	1
201530	BE482-01 Bioengineering Statistics	10
201530	MA223-01 Engineering Statistics I	24
201530	MA482-01 Bioengineering Statistics	9
201530	MA494-01 Senior Project III	1
201530	MA498-06 Senior Thesis III	1
201540	MA223-OL1 Engr Statistics I	7
201540	MA223-OL2 Engineering Statistics I	7

COURSE DEVELOPMENT

COURSE

Bayesian Statistics is a new course to Rose-Hulman. This course was developed for two reasons: (a) it fills a large gap in our statistics curriculum which currently only includes the Frequentist perspective and (b) it can potentially reach students who are not ordinarily exposed to statistical thinking but have a strong background in probability, such as computer science majors.

MA481 was revised so that 30% of the course content was computer simulation. It has become evident in the statistical community that students studying statistics need exposure to theory, practical application, and computational skills. The mathematical statistics course, primarily a proof-based course in the past, was revised to include statistical simulation as a means of both analysis and demonstrating statistical properties such as convergence.

MA223 was placed online during the summer. The content of the course was distributed through videos. Videos were developed for each of the modules of the course. The notes were reformatted to align with the video content. A new template was constructed for integrating random questions with statistical content into the Moodle environment. Over 300 hours of work went into developing the course. The material will be used for flipping courses in the upcoming academic year.

ADVISING

ACADEMIC ADVISEES

Advisee Count: 3

Advisor for mathematics majors with a concentration in statistics. While not the advisor of record for each student; these students are encouraged to discuss future career/graduate school plans with me.

OTHER

Advisee Count: 1

Directed Lorena Maxwell's Senior Project in Mathematics.

STUDENT ORG ADVISEES

Advisee Count: 50

Faculty Advisor for InterVarsity Christian Fellowship

THESIS ADVISEES

Advisee Count: 1

Directed Cody Roberts Mathematics Thesis.

Advisee Count: 1

Committee member for Anderson Adams master's thesis in Biomedical Engineering titled "A Comparative Evaluation of Cadaveric and Composite Femur Models for Total Hip Arthroplasty"

PROFESSIONAL DEVELOPMENT ACTIVITIES

PROFESSIONAL DEVELOPMENT

PUBLICATIONS

PAPERS PUBLISHED

Endoscopic Harvesting Device Type and Outcomes in Patients Undergoing Coronary Artery Bypass Surgery, Annals of Surgery

Statistician on clinical paper. Work done when consulting for Duke Clinical Research Institute.

Tutorial: Survival Estimation for Cox Regression Models with Time-Varying Coefficients, Journal of Statistical Software

The difficulty with these models is discussed in MA482 (bioengineering statistics).

Long-term clinical and angiographic outcomes in patients with diabetes undergoing coronary artery bypass graft surgery: Results from the PREVENT-IV Trial., American Heart Journal

Statistician on clinical paper. This is work done as a consulting for Duke Clinical Research Institute.

SEMINARS

CONFERENCE PRESENTATION

Name-Brand vs. Off-Brand: A Twist on Taste Testing for a Mathematical Statistics Course, Joint Statistical Meetings (JSM)

This introduced an activity developed for MA481 (Mathematical Statistics).

Six Sigmas of Separation: Strategies for Making Inter-Disciplinary Connections, US Conference on Teaching Statistics (USCOTS)

Dr. Diane Evans (Rose-Hulman) and I led a breakout session discussing how we get students to think broadly about the application of statistics in our courses, the connections we have developed with other departments regarding how statistics is taught in other courses, and the assignments and activities we have developed that engage a student beyond learning methodology.

CONFERENCES ATTENDED

Joint Statistical Meetings (JSM)

US Conference on Teaching Statistics (USCOTS)

WORKSHOPS ATTENDED

Teaching the Statistical Investigation Process with Randomization-Based Inference, Consortium for the Advancement of Undergraduate Statistics Education (CAUSE)

Will use this material to reorganize content and how it is delivered for MA223 (Engineering Statistics I).

WORKSHOPS PRESENTED

Engaging Intro Statistics Students with Activities

In conjunction with Diane Evans (Rose-Hulman), we were invited by Minitab to lead this workshop at the US Conference on Teaching Statistics. We introduced the 64 participating faculty to several activities we have developed at Rose-Hulman for MA223 Engineering Statistics I.

OTHER

COURSE PARTICIPATION

Winter 2014 Faculty Cohort for Online Course Development

Faculty member successfully completed 20 hours of training from the Learning and Technology Department on developing online courses

NON FUNDED RESEARCH

Nonlinear Modeling Framework for Estimating Young's Modulus from Stress-Strain Curves

Lorena Maxwell (2015) worked on this for her senior project. I hope to continue this project in future years. Our end goal is to construct an online program that will enable the Biomedical Engineering department explain the computation of Young's Modulus from stress-strain data and also provide an automated method for its computation.

Unified Approach to Variable Selection in the Presence of Missing Data

Cody Roberts (2015) worked on this for his senior thesis. This research presents a way of determining which potential predictors are useful for predicting a response and which are not when those predictors are not fully observed on all subjects. This research addresses an open question in statistics and would be very beneficial to medical applications of statistical modeling.

RESEARCH PROFILE

Scholarship Subject: statistics, variable selection, statistics education

Study Area: I am interested in the application of statistics to medicine. In particular, I focus on variable selection

Keywords: Biomedical Research, Multidisciplinary
Education/Instructional Programs
Educational Evaluation/Assessment
Educational Improvement
Statistics

PROFESSIONAL SERVICE ACTIVITIES

COMMITTEES

DEPARTMENTAL

Statistics and Operations Research Curriculum Development Group, MA (Chair)
Undergraduate Mathematics Conference, MA (Co-Chair)

INSTITUTIONAL

Quality of Education (Member)
Served as part of the joint sub-committee on academic misconduct.

PROFESSIONAL SERVICE

ON CAMPUS SERVICE

High School Mathematics Competition

Helped set-up for the event, and register competing schools.

REVIEWER

Journal Articles

Reviewed article with significant statistical content.

Faculty Activity Report 2016

Rose-Hulman Institute of Technology

Eric Reyes

Assistant Professor of Mathematics

TEACHING, STUDENT ADVISING AND CURRICULUM DEVELOPMENT

COURSES TAUGHT

<u>Quarter</u>	<u>Course Name and Number</u>	<u>Enrollment</u>
201610	CSSE494-07 Senior Thesis I	1
201610	MA223-03 Engineering Statistics I	28
201610	MA386-01 Statistical Programming	9
201620	CSSE495-07 Senior Thesis II	1
201620	MA223-01 Engineering Statistics I	25
201620	MA223-02 Engineering Statistics I	26
201620	MA485-01 Appl Regres Anly & Time Series	13
201630	BE482-01 Bioengineering Statistics	4
201630	CSSE496-07 Senior Thesis III	1
201630	MA223-06 Engineering Statistics I	27
201630	MA223-07 Engineering Statistics I	27
201630	MA482-01 Bioengineering Statistics	10
201630	MA494-02 Senior Project III	1
201630	MA496-01 Senior Thesis I	1
201640	MA223-ONL Engineering Statistics I	15

General Comments

CSSE Senior Thesis was Wenjun Kong, who is interested in pursuing a graduate work in bioinformatics; so, we felt a statistics-oriented thesis was appropriate.

COURSE DEVELOPMENT

COURSE

MA386 Statistical Programming has traditionally been part R and part SAS. This year, it was revised to be an all R course. This allowed us to cover more advanced topics and introduce data-science elements into the course.

MA223 is a course of mass instruction; typically, this means that the course syllabus and final exam are coordinated across all sections. In the Fall and Winter terms, we expanded upon this. All instructors in these two terms implemented a flipped classroom. Lectures were delivered online using videos, which I had recorded for teaching MA223 online during the summer following AY1415. All instructors used the same videos. Homework assignments, in-class activities, and exam topics were coordinated across all sections as well. This presented a unified course to these students. I acted as the coordinator for these sections both terms.

MA482 was graded using specifications grading. This was a large undertaking in setting up a system in which students were aware of what assignments needed to be completed to obtain a specific grade.

ADVISING

ACADEMIC ADVISEES

Advisee Count: 2

Advisees that were originally Leanne Holder's or Al Holder's advisees prior to their sabbatical.

Advisee Count: 12

Advisor for area minor in Statistics.

STUDENT ORG ADVISEES

Advisee Count: 50

Faculty advisor for InterVarsity Christian Fellowship.

THESIS ADVISEES

Advisee Count: 3

Advised Wenjun Kong (CS) on her senior thesis. Wenjun, wanting to pursue a career in Bioinformatics, decided to conduct a senior thesis with a primary emphasis in statistics. Her computing skills were used to develop code to implement her approach and conduct simulation studies assessing the methodology. Advised Amy Kamperman (MA/ECON) on the math portion of her senior project. Began advising Xiaomo Wang (MA) on her math senior thesis; she wanted to begin her work one term early.

Advisee Count: 1

Committee member for Christine Rollins Master's thesis. Topic is currently undecided, and it is in the early stages.

PROFESSIONAL DEVELOPMENT ACTIVITIES

PROFESSIONAL DEVELOPMENT

PUBLICATIONS

PAPERS PUBLISHED

Micromotion at the tibial plateau in primary and revision total knee arthroplasty: fixed versus rotating platform designs., Bone and Joint Research

Consulting work for JRSI lab on campus. Report also served as a case study for MA482/BE482 Bioengineering Statistics

SEMINARS

CONFERENCE PRESENTATION

Choosing to be an Outlier in a Mathematics Department, Joint Statistical Meetings

Served as a panelist about opportunities for statisticians at small colleges.

Specifications Grading in the Statistics Classroom, Joint Statistical Meetings

Let a round-table discussion for the Section on Statistical Education.

CONFERENCE/WORKSHOP ORGANIZER

Specifications Grading

Internal CPSE workshop for Rose-Hulman faculty to be exposed to the concepts of specifications grading in the classroom. This was co-led with John Mirth (ME).

WORKSHOPS ATTENDED

Machine Learning from a Statistical Perspective, American Statistical Association

In preparation for adding machine learning elements to MA386: Statistical Programming

OTHER

COURSE PARTICIPATION

Data Science

Taking online Coursera course offered by statistics faculty at John's Hopkins regarding Data Science. This is preparation for adding additional data science elements to MA386: Statistical Programming.

OTHER RESEARCH

KEEN Course Development

Internal Course Development grant received from the KEEN foundation in order to infuse my MA386 Statistical Programming course with entrepreneurial minded learning. Using data science elements and the inclusion of rich case studies, the course was redesigned to encourage creativity and get students to make connections using multiple data sources.

NON FUNDED RESEARCH

Effects of Exam Design on Test Anxiety and Performance

Diane Evans and I ran a small study during the Spring term using students currently enrolled in MA223 Engineering Statistics I. We were interested in determining if various aspects of the exam design (color of paper, font of text, and inclusion of cartoons) decreased student anxiety during the exam and translated to improved performance. We hope to turn the results of the study into a paper in the statistical education literature.

RESEARCH PROFILE

Scholarship Subject: statistics, variable selection, statistics education

Study Area: I am interested in the application of statistics to medicine. In particular, I focus on variable selection

Keywords: Biomedical Research, Multidisciplinary
Education/Instructional Programs
Educational Evaluation/Assessment
Educational Improvement
Statistics

PROFESSIONAL SERVICE ACTIVITIES

COMMITTEES

DEPARTMENTAL

Statistics and Operations Research Curriculum Group, MA (Chair)

Proposed changes to several course descriptions and restructured the minor in Statistics.

Hiring Committee, MA (Member)

Successful search for statistics faculty member.

Undergraduate Math Conference, MA (Member)

Data Science Core Group, MA (Member)

Unofficial interdisciplinary group working on the construction of a data science program (minor and second major).

INSTITUTIONAL

Animal Care and Use (Member)

PROFESSIONAL SERVICE

ON CAMPUS SERVICE

High School Mathematics Competition

I help with the online registration and on-site registration for this department-sponsored competition.

OTHER

ASA-MAA Joint Committee on Statistics Education

Serve on a joint committee which makes recommendations regarding statistics curriculum at the undergraduate level.

Faculty Activity Report 2017

Rose-Hulman Institute of Technology

Eric Reyes

Assistant Professor of Mathematics

TEACHING, STUDENT ADVISING AND CURRICULUM DEVELOPMENT

COURSES TAUGHT

<u>Quarter</u>	<u>Course Name and Number</u>	<u>Enrollment</u>
201710	MA223-01 Engineering Statistics I	15
201710	MA223-04 Engineering Statistics I	20
201710	MA386-01 Statistical Programming	12
201710	MA492-01 Senior Project I	1
201710	MA496-05 Senior Thesis I	1
201710	MA497-01 Senior Thesis II	1
201720	MA381-02 Intro Probly w/ Appl to Stats	26
201720	MA481-01 Mathematical Statistics	3
201720	MA493-01 Senior Project II	1
201720	MA498-01 Senior Thesis III	1
201730	MA223-06 Engineering Statistics I	26
201730	MA223-07 Engineering Statistics I	23
201730	MA482-01 Bioengineering Statistics	12
201730	MA494-02 Senior Project III	1

COURSE DEVELOPMENT

COURSE

MA386 was part of a KEEN course development grant. Using the funds from that project, the weekly portfolio assignments (case studies) were significantly revised.

ADVISING

ACADEMIC ADVISEES

Advisee Count: 5

Minor in Statistics: oversee those students pursing a minor in statistics.

STUDENT ORG ADVISEES

Advisee Count: 75

InterVarsity Christian Fellowship; this includes multiple speaking engagements each year, and traveling with the group on an overnight Winter Retreat and for a week-long summer retreat. During both retreats, I help lead a significant portion of the program.

THESIS ADVISEES

Advisee Count: 3

Aaron Brown: I advised this student's senior thesis on the use of Normality testing for 1 term (Fall). At the end of the term, he advised me that he would be transferring. We discontinued working together at that point.

Xiaomo Wang: I advised this student's senior thesis on variable selection with the goal of selection and not prediction through the addition of noise variables during the Fall and Winter terms.

Ruinan (Victor) Zhang: I advised this student's senior project throughout the academic year; the project involved using LDA to make informative marketing decisions. He constructed an application for an Indianapolis based company.

PROFESSIONAL DEVELOPMENT ACTIVITIES

PROFESSIONAL DEVELOPMENT

SEMINARS

CONFERENCE PRESENTATION

Tuning Variable Selection via Noise when Prediction is not the Primary Objective, Joint Statistical Meetings (JSM)

Presented work accomplished with senior Thesis student Xiaomo Wang.

Life Lessons from a Young(ish) Professor, Conference Celebrating 75 Years of the NC State Statistics Department

Invited presentation on statistics education.

CONFERENCES ATTENDED

KEEN Winter Conference

Invited by local KEEN organizers to participate in the conference as a bridge to departments other than Engineering.

WORKSHOPS ATTENDED

Real world data and real world questions in the introductory statistics curriculum: a research focused, multidisciplinary project-based approach, CAUSE

Considerations for revising the curriculum of an introductory statistics course to be project-based.

WORKSHOPS PRESENTED

Specifications Grading in a Statistics Classroom

Peer Reviewed Workshop at the US Conference on Teaching Statistics. This 4-hour workshop introduced educators to a grading system I have been implementing in my courses.

RESEARCH PROFILE

Scholarship Subject: statistics, variable selection, statistics education

Study Area: I am interested in the application of statistics to medicine. In particular, I focus on variable selection

Keywords: Biomedical Research, Multidisciplinary
Education/Instructional Programs
Educational Evaluation/Assessment
Educational Improvement
Statistics

PROFESSIONAL SERVICE ACTIVITIES

COMMITTEES

DEPARTMENTAL

Statistics and Operations Research Curriculum Development Group, MA (Chair)

Worked with Dr. Heyman to begin developing a new curriculum for the introductory statistics course. We reviewed a proposal for a Data Science Minor within the department.

Undergraduate Math Conference, MA (Member)

Responsible for the registration and schedule for the Undergraduate Math Conference.

Data Science Core Group, MA (Member)

Interdepartmental group of faculty working to develop the data science minor. We proposed (and got approved) an interdepartmental minor in Data Science.

INSTITUTIONAL

Animal Care and Use (Member)

PROFESSIONAL SERVICE

MEMBERSHIPS

Member of American Statistical Association, American Statistical Association

Member of MAA, Mathematical Association of America

ON CAMPUS SERVICE

Big Data Summit

Worked with Corporate Engagement and Elizabeth Hagerman to host the Big Data Summit; this involved planning as well as presenting at the summit.

High School Math Contest

Organize the registration system for the High School Math contest hosted by the mathematics department.

OTHER

ASA-MAA Joint Committee on Statistics Education

Member representing the MAA. This committee reviews and approves various statements on best practices within statistics education as well as providing resources for educators.

Faculty Activity Report 2018

Rose-Hulman Institute of Technology

Eric Reyes

Associate Professor of Mathematics

TEACHING, STUDENT ADVISING AND CURRICULUM DEVELOPMENT

COURSES TAUGHT

<u>Quarter</u>	<u>Course Name and Number</u>	<u>Enrollment</u>
201810	MA223-03 Engineering Statistics I	24
201810	MA386-01 Statistical Programming	11
201820	MA223-02 Engineering Statistics I	26
201820	MA223-03 Engineering Statistics I	28
201820	MA480-01 Bayesian Statistics	11
201820	MA496-01 Senior Thesis I	1
201830	BE482-01 Bioengineering Statistics	7
201830	MA223-06 Engineering Statistics I	25
201830	MA223-07 Engineering Statistics I	27
201830	MA482-01 Bioengineering Statistics	19
201830	MA496-02 Senior Thesis I	1
201830	MA497-01 Senior Thesis II	1
201840	MA223-ONL Engineering Statistics I	16

COURSE DEVELOPMENT

COURSE

This was the second time I offered the Bayesian Data Analysis course as a special topics course within the department. I updated the course dramatically to have a more applied feel than the more theoretical offering previously. The course was well received and the department voted to put it in the course catalog.

DEPARTMENT CURRICULUM REVISIONS

Dr. Megan Heyman and I developed a new curriculum for the introductory statistics (MA223) course. We piloted various components of the new curriculum throughout the year. The new curriculum has a heavier focus on data collection and study design; we also included a new unit on randomized complete block design. The course also has a stronger modeling component.

We spoke with members from each department whose students take MA223 to discuss the changes in the course. The curriculum changes were approved by the department and curriculum committee in May 2018.

ADVISING

ACADEMIC ADVISEES

Advisee Count: 5

Advisor for the statistics minor.

STUDENT ORG ADVISEES

Advisee Count: 125

Faculty advisor for InterVarsity Christian Fellowship

Advisee Count: 25

Faculty advisor for Lilly Scholars Network (new this year).

THESIS ADVISEES

Advisee Count: 2

John Lambrecht: deep learning boasts that with enough data, it can uncover any underlying pattern. This could potentially cause problems when constructing models if the deep learning models can begin to pick up on the pseudo-random number generator used when performing cross-validation during fitting. This would lead to the deep learning models having optimistic performance metrics. John is investigating whether this is a valid concern in practice.

Ty Adams: selecting the variables which are important to the data generating process is a difficult problem; one complication is the need to specify the form of the relationship. Ty is using the distance correlation measure as a means of developing a non-parametric variable selection algorithm.

Both intend to graduate early next year.

PROFESSIONAL DEVELOPMENT ACTIVITIES

PROFESSIONAL DEVELOPMENT

SEMINARS

CONFERENCE PRESENTATION

Introducing Data Science Elements through Parallel Courses in Statistics and Computing, Electronic Conference on Teaching Statistics

Webinar with Dr. Megan Heyman.

Abstract:

In the fall of 2017, Rose-Hulman Mathematics and Computer Science departments jointly launched a minor in Data Science. The popularity of the minor has already resulted in increased enrollment in required statistics electives. Specifically, all students receiving the minor take an introductory course in statistics. With the constraints of the minor, many students also elect to take a course which emphasizes statistical programming. Both the introductory course and the statistical programming course are offered only in the fall. In order to support the new minor, we have aligned these courses to provide a strong Data Science foundation for students electing to take both concurrently. Changes we have made to the courses include assignments and lectures incorporating open-ended questions, increased group work, intensive programming, and data analysis projects. In this session we will highlight these changes as well as discuss how the structures support statistical and computational thinking and communication. Participants will be asked to begin developing a project that could be offered in a future iteration of their course.

Is the Central Limit Theorem Still Central to the Introductory Course?, Electronic Conference on Teaching Statistics

Round-table discussion on a major component of the introductory course.

Abstract:

A traditional curriculum for an introductory statistics course builds up to the Central Limit Theorem as a model for the sampling distribution. The remainder of the course flows out of this theorem using it to develop and/or motivate inferential methods. As more instructors move toward randomization-based inference, incorporating more data visualization elements, and emphasizing computational thinking, we ask the question: is the Central Limit Theorem still central to the introductory course? In addition to sharing how sampling distributions are motivated in their own classes, the group will wrestle with questions like is the Central Limit Theorem helpful for conveying the notion of a sampling distribution and its properties? Is it distracting? Is it relevant in the world of big data?

RESEARCH PROFILE

Scholarship Subject: statistics, variable selection, statistics education

Study Area: I am interested in the application of statistics to medicine. In particular, I focus on variable selection

Keywords: Biomedical Research, Multidisciplinary
Education/Instructional Programs
Educational Evaluation/Assessment
Educational Improvement
Statistics

PROFESSIONAL SERVICE ACTIVITIES

COMMITTEES

DEPARTMENTAL

Statistics and Operations Research Curriculum Development Group, MA (Chair)

Undergraduate Math Conference, MA (Member)

Responsible for the registration and schedule for the Undergraduate Math Conference.

INSTITUTIONAL

Quality of Education (Member)

Asked to fill in after departure of current members

Animal Care and Use (Member)

PROFESSIONAL SERVICE

MEMBERSHIPS

Member of American Statistical Association

Member of ASA/MAA Joint Committee on Statistics Education, ASA/MAA Joint Committee on Statistics Education

ON CAMPUS SERVICE

High School Math Contest

Organize the registration system for the High School Math contest hosted by the mathematics department.

REVIEWER

Journal Articles, INFORMS Journal on Computing

Reviewed article with significant statistical content.

Faculty Activity Report AY2018/19

Dr. Eric M Reyes

Rose-Hulman Institute of Technology
Associate Professor
Mathematics
REYESEM@rose-hulman.edu

Teaching/Advising

Courses Taught

Fall-Quarter 2018

MA 223, section 3, Engineering Statistics I. 16 enrolled.
MA 492, section 2, Senior Project I. 2 enrolled.
MA 497, section 2, Senior Thesis II. 1 enrolled.
MA 498, section 1, Senior Thesis III. 1 enrolled.
MA 386, section 1, Statistical Programming. 18 enrolled.

Winter-Quarter 2019

MA 223, section 2, Engineering Statistics I. 26 enrolled.
MA 223, section 3, Engineering Statistics I. 25 enrolled.
MA 481, section 1, Mathematical Statistics. 11 enrolled.
MA 493, section 2, Senior Project II. 2 enrolled.
MA 498, section 1, Senior Thesis III. 1 enrolled.

Spring-Quarter 2019

BE 482, section 1, Biostatistics. 9 enrolled.
MA 482, section 1, Biostatistics. 11 enrolled.
MA 223, section 5, Engineering Statistics I. 20 enrolled.
MA 223, section 6, Engineering Statistics I. 21 enrolled.
MA 490, section 5, SAS Programming. 1 enrolled.
MA 494, section 2, Senior Project III. 2 enrolled.

Summer-Quarter 2019

MA 223, section OL1, Engineering Statistics I. 13 enrolled.

Course Development

Academic Advising

Other Advising

Student Organization Advising, InterVarsity Christian Fellowship, 30, Meet with Leadership Team (~ 5 students) each week; meet with others at larger meetings once per term., (2014 - Present)

Professional Development/Research

Faculty Development Activities Attended

Presentations

Publications

Intellectual Property

Sponsor Funded Research

Other Research

Statistical Collaboration with IU School of Medicine, Terre Haute, Industry Funded, Work with medical students on their research for the scholarly concentration. This involves reviewing their proposals and making recommendations regarding an appropriate analysis; it also includes reviewing their drafts. Occasionally, these are full collaborations that seek publication where I am the lead statistician., (August 2019 - Present)

Committees/Service

Committees

Member, Institute Committee on Animal Care and Use: (2015 - Present); I primarily contributed to the creation and maintenance of an electronic form for IACUC submissions and a Teams page for streamlining our review process.

Member, Faculty Affairs: (2018 - 2021); During the 2020-2021 academic year, I served as "outgoing chair." During this time, I attended meetings with the Dean, VPAA, and current chair (Simon Jones) as we navigated the return to school during the COVID-19 pandemic. In particular, I helped Simon draft initial language for a Professor of Practice position at Rose-Hulman.

Service

Isolated Statisticians Webmaster, American Statistical Association: (2017 - Present); I maintain the website for the Isolated Statisticians group; this is a network of statisticians who are employed in (primarily academic) settings in which there are few other statisticians.

Moodle Mentor: (2017 - Present)

Member of ASA/MAA Joint Committee on Statistics Education: (2016 - 2019)

Provost Hiring Search: (2019); I served on the search committee for the Provost position.

Faculty Activity Report AY2019/20

Dr. Eric M Reyes

Rose-Hulman Institute of Technology
Associate Professor
Mathematics
REYESEM@rose-hulman.edu

Teaching/Advising

Courses Taught

Winter-Quarter 2020

MA 483, section 1, Bayesian Data Analysis. 6 enrolled.
MA 223, section 1, Engineering Statistics I. 22 enrolled.
MA 223, section 2, Engineering Statistics I. 25 enrolled.
MA 492, section 1, Senior Project I. 1 enrolled.
MA 493, section 1, Senior Project II. 2 enrolled.

Spring-Quarter 2020

MA 480, section 01, Advanced Biostatistics. 1 enrolled.
MA 483, section 01, Bayesian Data Analysis. 1 enrolled.
BE 482, section 01, Biostatistics. 0 enrolled.
MA 482, section 01, Biostatistics. 6 enrolled.
MA 223, section 06, Engineering Statistics I. 19 enrolled.
MA 223, section 07, Engineering Statistics I. 20 enrolled.
MA 494, section 01, Senior Project III. 3 enrolled.

Summer-Quarter 2020

MA 223, section 1, Engineering Statistics I. 22 enrolled.

Course Development

Academic Advising

Total # of Advisees
6

Academic Year
2019-2020

of Advisees who are Freshmen
0

Advisor for the statistics minor.

Other Advising

Student Organization Advising, InterVarsity Christian Fellowship, 30, Meet with Leadership Team (~ 5 students) each week; meet with others at larger meetings once per term., (2014 - Present)

Professional Development/Research

Faculty Development Activities Attended

Presentations

Publications

Intellectual Property

Sponsor Funded Research

Other Research

Statistical Collaboration with IU School of Medicine, Terre Haute, Industry Funded, Work with medical students on their research for the scholarly concentration. This involves reviewing their proposals and making recommendations regarding an appropriate analysis; it also includes reviewing their drafts. Occasionally, these are full collaborations that seek publication where I am the lead statistician., (August 2019 - Present)

Efficacy of an Undergraduate Research Community, Not Funded, Working with Jordan Trachtenberg (IRPA), Irene Reizman (CHE), and Michelle Marincel Payne (CE) investigating impact of their Summer Undergraduate Research Community which has run the past several summers., (November 1, 2019 - May 31, 2020)

Committees/Service

Committees

Member, Institute Committee on Animal Care and Use: (2015 - Present); I primarily contributed to the creation and maintenance of an electronic form for IACUC submissions and a Teams page for streamlining our review process.

Member, CASO: (2019 - 2024)

Member, Faculty Affairs: (2018 - 2021); During the 2020-2021 academic year, I served as "outgoing chair." During this time, I attended meetings with the Dean, VPAA, and current chair (Simon Jones) as we navigated the return to school during the COVID-19 pandemic. In particular, I helped Simon draft initial language for a Professor of Practice position at Rose-Hulman.

Chair, Faculty Affairs Committee: (2019 - 2020); Chaired the FAC during the transition to remote learning as a result of COVID-19 pandemic.

Service

Rose Show Planning Committee: (2020 - Present); As a member of the Rose Show planning committee, my primary responsibilities involve overseeing the registration process and the program creation.

Isolated Statisticians Webmaster, American Statistical Association: (2017 - Present); I maintain the website for the Isolated Statisticians group; this is a network of statisticians who are employed in (primarily academic) settings in which there are few other statisticians.

Moodle Mentor: (2017 - Present)

High School Math Contest: (2020 - 2022); As a member of the planning committee for the High School Math Contests, my primary responsibilities include overseeing the registration process.

Planning Committee for USCOTS, CAUSE: (2020 - 2021); Member of the planning committee (Workshop Subcommittee) for the US Conference on Teaching Statistics (USCOTS). Helped select and schedule workshop sessions. I also attended several of the workshops and sessions to moderate during the conference. Finally, I was invited to speak at the conference during the closing session to provide thoughts on the conference theme of "Expanding Opportunities."

Member of ASA/MAA Joint Committee on Statistics Education: (2016 - 2019)

Faculty Activity Report AY2020/21

Dr. Eric M Reyes

Rose-Hulman Institute of Technology

Associate Professor

Mathematics

REYESEM@rose-hulman.edu

Teaching/Advising

Courses Taught

Fall-Quarter 2020

MA 223, section 1, Engineering Statistics I. 13 enrolled.

MA 223, section 2, Engineering Statistics I. 13 enrolled.

MA 223, section 3, Engineering Statistics I. 13 enrolled.

MA 223, section 4, Engineering Statistics I. 12 enrolled.

MA 496, section 1, Senior Thesis I. 1 enrolled.

MA 386, section 1, Statistical Programming. 13 enrolled.

Winter-Quarter 2021

MA 223, section 3, Engineering Statistics I. 12 enrolled.

MA 223, section 4, Engineering Statistics I. 12 enrolled.

MA 223, section 5, Engineering Statistics I. 13 enrolled.

MA 223, section 6, Engineering Statistics I. 9 enrolled.

MA 490, section 2, Nonparametric Inference. 1 enrolled.

MA 497, section 1, Senior Thesis II. 1 enrolled.

Spring-Quarter 2021

BE 482, section 1, Biostatistics. 0 enrolled.

MA 482, section 1, Biostatistics. 10 enrolled.

MA 482, section OL1, Biostatistics. 1 enrolled.

MA 223, section 5, Engineering Statistics I. 12 enrolled.

MA 223, section 6, Engineering Statistics I. 12 enrolled.

MA 223, section 7, Engineering Statistics I. 12 enrolled.

MA 223, section 8, Engineering Statistics I. 10 enrolled.

MA 480, section 1, SAS Programming. 1 enrolled.

MA 498, section 1, Senior Thesis III. 1 enrolled.

Summer-Quarter 2021

MA 223, section OL1, Engineering Statistics I. 17 enrolled.

Course Development

Academic Advising

Total # of Advisees

3

Academic Year

2020-2021

of Advisees who are Freshmen

0

I advised two senior capstone experiences (three total students, 2 were paired on the same project). One project was based on the annual ASA Data Challenge - examining the relationship between education and homelessness. The other project aimed to develop a ranking system for Division III Cross Country.

Other Advising

Student Organization Advising, InterVarsity Christian Fellowship, 30, Meet with Leadership Team (~ 5 students) each week; meet with others at larger meetings once per term., (2014 - Present)

Undergraduate Research Advising, Lizzie Rhoads, 1, Senior project using Jackson Heart Study., (2021 - 2022)

Professional Development/Research

Faculty Development Activities Attended

Presentations

Publications

Popovic, K., Reyes, E. M., O'Connor, J. B., Dee, K. C., & Ingram, E. L. (2021). Creating Adaptable Courses: A Course Design Approach that Accommodates Flexible Delivery. In *Resilient pedagogy: Practical teaching strategies to overcome distance, disruption, and distraction* (pp. 148–165). Utah State University. <https://digitalcommons.usu.edu/resiped/1/>

Intellectual Property

Sponsor Funded Research

Other Research

Statistical Collaboration with IU School of Medicine, Terre Haute, Industry Funded, Work with medical students on their research for the scholarly concentration. This involves reviewing their proposals and making recommendations regarding an appropriate analysis; it also includes reviewing their drafts. Occasionally, these are full collaborations that seek publication where I am the lead statistician., (August 2019 - Present)

Committees/Service

Committees

Member, Institute Committee on Animal Care and Use: (2015 - Present); I primarily contributed to the creation and maintenance of an electronic form for IACUC submissions and a Teams page for streamlining our review process.

Member, CASO: (2019 - 2024)

Member, Faculty Affairs: (2018 - 2021); During the 2020-2021 academic year, I served as "outgoing chair." During this time, I attended meetings with the Dean, VPAA, and current chair (Simon Jones) as we navigated the return to school during the COVID-19 pandemic. In particular, I helped Simon draft initial language for a Professor of Practice position at Rose-Hulman.

Service

Mathematics Group for Program Improvement: (2021 - Present); This committee oversees the assessment program for the mathematics department. It oversees artifact collection, reviews reports from artifact rating sessions, and makes recommendations to the department.

Rose Show Planning Committee: (2020 - Present); As a member of the Rose Show planning committee, my primary responsibilities involve overseeing the registration process and the program creation.

Isolated Statisticians Webmaster, American Statistical Association: (2017 - Present); I maintain the website for the Isolated Statisticians group; this is a network of statisticians who are employed in (primarily academic) settings in which there are few other statisticians.

Moodle Mentor: (2017 - Present)

High School Math Contest: (2020 - 2022); As a member of the planning committee for the High School Math Contests, my primary responsibilities include overseeing the registration process.

Peak Performing Professor Reading Group Convener, CPSE: (2021 - 2022); At the request of Dr. Ingram, I led a year-long reading group that worked through the text Peak Performing Professors by Robison. The group, which consisted of 6 Associate Professors from various departments (including myself) met regularly throughout the year as we worked through the book.

"Backward Design and Learning Outcomes", RHIT Teaching Workshop: (2021); Invited to give a presentation for new faculty at the annual teaching workshop.

Planning Committee for USCOTS, CAUSE: (2020 - 2021); Member of the planning committee (Workshop Subcommittee) for the US Conference on Teaching Statistics (USCOTS). Helped select and schedule workshop sessions. I also attended several of the workshops and sessions to moderate during the conference. Finally, I was invited to speak at the conference during the closing session to provide thoughts on the conference theme of "Expanding Opportunities."

Faculty Activity Report AY2021/22

Dr. Eric M Reyes

Rose-Hulman Institute of Technology
Associate Professor
Mathematics
REYESEM@rose-hulman.edu

Teaching/Advising

Courses Taught

Fall-Quarter 2022

BMTH 496, section BMTH496-02, Capstone Experience I. 1 enrolled.
MA 382, section MA382-01, Intro to Stats w/Probability. 10 enrolled.
MA 382, section MA382-02, Intro to Stats w/Probability. 15 enrolled.
MA 386, section MA386-01, Statistical Programming. 9 enrolled.

Winter-Quarter 2022

MA 483, section MA483-01, Bayesian Data Analysis. 8 enrolled.
BMTH 497, section BMTH497-01, Capstone Experience II. 1 enrolled.
MA 223, section MA223-02, Engineering Statistics I. 29 enrolled.
MA 490, section MA490-02, SocialJustice,Statstcl Concpts. 6 enrolled.

Spring-Quarter 2022

BE 482, section BE482-01, Biostatistics. 1 enrolled.
MA 482, section MA482-01, Biostatistics. 10 enrolled.
MA 223, section MA223-04, Engineering Statistics I. 25 enrolled.
MA 223, section MA223-05, Engineering Statistics I. 26 enrolled.
BMTH 498, section BMTH498-01, Senior Capstone III. 1 enrolled.

Course Development

New course/lab development, MA490 Social Justice and Statistical Concepts, This was a 1-CR seminar course examining the use of statistics in social justice contexts. The course was a pilot for a 4-CR version to be run the next academic year. The course blended together statistical concepts with social justice concepts from a humanities perspective. I met regularly with Dr. Livingston in HSSA in order to develop better discussion points and keep the discussion broad (not just focused on the technical aspects)., (November 2021 - March 2022)

Course/lab revision, MA483 Bayesian Data Analysis, Revised the course grading structure to adopt "ungrading." This required changing the types of assignments I provide in order to build more toward students developing a portfolio of work instead of solving specific problems., (November 2021 - March 2022)

Academic Advising

2 undergraduate students advised, 1 graduate students advised. (2021-2022).

Other Advising

Student Organization Advising, InterVarsity Christian Fellowship, 30, Meet with Leadership Team (~ 5 students) each week; meet with others at larger meetings once per term., (2014 - Present)

Undergraduate Research Advising, Lizzie Rhoads, 1, Senior project using Jackson Heart Study., (2021 - 2022)

Professional Development/Research

Faculty Development Activities Attended

Conference Attendance, "Joint Statistical Meetings," American Statistical Association, Washington, DC, United States. (August 2022).

Presentations

Reyes, E. M. (Workshop Leader), Rose-Hulman Teaching Workshop, "Designing an Inclusive Classroom," Rose-Hulman, Terre Haute, IN, United States. (August 2022).

Reyes, E. M. (Workshop Leader), Rose-Hulman Teaching Workshop, "Developing a Vision," Rose-Hulman, Terre Haute, IN, United States. (August 2022).

Reyes, E. M. (Panelist), Joint Statistical Meetings, "Perspectives on Nontraditional Grading in Statistics Courses," American Statistical Association, Washington, DC, United States. (August 2022).

Publications

Intellectual Property

Sponsor Funded Research

Other Research

Statistical Collaboration with IU School of Medicine, Terre Haute, Industry Funded, Work with medical students on their research for the scholarly concentration. This involves reviewing their proposals and making recommendations regarding an appropriate analysis; it also includes reviewing their drafts. Occasionally, these are full collaborations that seek publication where I am the lead statistician., (August 2019 - Present)

Committees/Service

Committees

Chair, Mathematics Group for Program Improvement: (2021 - Present); This committee oversees the assessment program for the mathematics department. It oversees artifact collection, reviews reports from artifact rating sessions, and makes recommendations to the department.

Member, CASO: (2019 - Present)

Member, Institute Committee on Animal Care and Use: (2015 - Present); I primarily contributed to the creation and maintenance of an electronic form for IACUC submissions and a Teams page for streamlining our review process.

Service

High School Math Contest: (2020 - Present); As a member of the planning committee for the High School Math Contests, my primary responsibilities include overseeing the registration process.

Rose Show Planning Committee: (2020 - Present); As a member of the Rose Show planning committee, my primary responsibilities involve overseeing the registration process and the program creation.

Isolated Statisticians Webmaster, American Statistical Association: (2017 - Present); I maintain the website for the Isolated Statisticians group; this is a network of statisticians who are employed in (primarily academic) settings in which there are few other statisticians.

Moodle Mentor: (2017 - Present)

Teaching Workshop Convener, CPSE: (2022); I was the organizer for the annual Teaching Workshop primarily focused towards new faculty members. I organized speakers for the workshop and worked with Learning and Technology to redesign the Moodle training to be more hands-on with departmental mentors who would be co-teaching courses with new faculty.

Peak Performing Professor Reading Group Convener, CPSE: (2021 - 2022); At the request of Dr. Ingram, I led a year-long reading group that worked through the text Peak Performing Professors by Robison. The group, which consisted of 6 Associate Professors from various departments (including myself) met regularly throughout the year as we worked through the book.

MA Department Head Search Consultant: (2022); I was the internal search consultant for the MA department head search.

Economics Hiring Search: (2021 - 2022); I served on the search committee for the Economics position within HSSA.

Faculty Activity Report AY2022/23

Dr. Eric M Reyes

Rose-Hulman Institute of Technology
Associate Professor
Mathematics
REYESEM@rose-hulman.edu

Teaching/Advising

Courses Taught

Fall-Quarter 2022

MA 223, section MA223-01, Engineering Statistics I. 28 enrolled.

MA 223, section MA223-02, Engineering Statistics I. 30 enrolled.

MA 386, section MA386-01, Statistical Programming. 17 enrolled.

Winter-Quarter 2023

MA 223, section MA223-01, Engineering Statistics I. 30 enrolled.

MA 480, section MA480-01, Soc Justice & Statstcl Cncepts. 5 enrolled. This course was cross-listed with HSSA and co-taught with Dr. Jessica Livingston. We developed this course to give students tools for addressing social injustice. The course asked students to combine data (and corresponding analysis) with rhetoric and story-telling in order to give a compelling argument. While the enrollment was not high, the course demanded a lot as it was interdisciplinary and involved a large project. The students who participated in the course found it very valuable.

Spring-Quarter 2023

BE 482, section BE482-01, Biostatistics. 5 enrolled.

MA 482, section MA482-01, Biostatistics. 12 enrolled.

MA 223, section MA223-03, Engineering Statistics I. 26 enrolled.

MA 223, section MA223-04, Engineering Statistics I. 26 enrolled.

Course Development

New course/lab development, MA480 - Social Justice and Statistical Concepts, This course was cross-listed with HSSA and co-taught with Dr. Jessica Livingston. We developed this course to give students tools for addressing social injustice. The course asked students to combine data (and corresponding analysis) with rhetoric and story-telling in order to give a compelling argument. The course was truly interdisciplinary, weaving together elements of analysis and rhetorical critique. It blended various media together to investigate social injustice in various contexts., (August 2022 - March 2023)

Academic Advising

Total # of Advisees
8

Academic Year
2022-2023

of Advisees who are Freshmen
6.

Other Advising

Student Organization Advising, InterVarsity Christian Fellowship, 30, Meet with Leadership Team (~ 5 students) each week; meet with others at larger meetings once per term., (2014 - Present)

Undergraduate Research Advising, Riya Bharamaraddi, 1, Reproduced selected results from a published paper investigating the characteristics associated with driving under the influence of marijuana among adolescents using data from a national survey., (2023 - 2024)

Professional Development/Research

Faculty Development Activities Attended

Presentations

Reyes, E. M. (Workshop Leader), Rose-Hulman Teaching Workshop, "Developing a Vision," Rose-Hulman, Terre Haute, IN, United States. (August 2023).

Reyes, E. M. (Presenter), Curley, B. (Presenter), Loy, A. (Presenter), US Conference on Teaching Statistics, "Communicating Progress in a Statistics Course through Non-Traditional Grading," CAUSE, State College, PA, United States. (June 2023).

Reyes, E. M. (Panelist / Co-Organizer), Dosmar, E. (Panelist / Co-Organizer), Carlisle, S. (Panelist), House, R. A. (Panelist), Williams, J. M. (Panelist), Midwest Conference on the Scholarship of Teaching and Learning, "Refocusing Students Toward Learning through Alternative Assessment Approaches," South Bend, IN, United States. (March 2023).

Publications

Ratcliffe, B., Danek, R., Ireland, E., & Reyes, E. M. (2022). Rural and Urban EMS Level of Comfort with Overdose Treatment. *Journal of Regional Medical Campuses*, 5(1).
<https://doi.org/https://doi.org/10.24926/jrmc.v5i1.4388>

Intellectual Property

Sponsor Funded Research

Other Research

Statistical Collaboration with IU School of Medicine, Terre Haute, Industry Funded, Work with medical students on their research for the scholarly concentration. This involves reviewing their proposals and making recommendations regarding an appropriate analysis; it also includes reviewing their drafts. Occasionally, these are full collaborations that seek publication where I am the lead statistician., (August 2019 - Present)

Committees/Service

Committees

Member, Institute Committee on Animal Care and Use: (2015 - Present); I primarily contributed to the creation and maintenance of an electronic form for IACUC submissions and a Teams page for streamlining our review process.

Member, CASO: (2019 - 2024)

Service

Mathematics Group for Program Improvement: (2021 - Present); This committee oversees the assessment program for the mathematics department. It oversees artifact collection, reviews reports from artifact rating sessions, and makes recommendations to the department.

Rose Show Planning Committee: (2020 - Present); As a member of the Rose Show planning committee, my primary responsibilities involve overseeing the registration process and the program creation.

Isolated Statisticians Webmaster, American Statistical Association: (2017 - Present); I maintain the website for the Isolated Statisticians group; this is a network of statisticians who are employed in (primarily academic) settings in which there are few other statisticians.

Moodle Mentor: (2017 - Present)

Academic Affairs Faculty Representative to the Board of Trustees: (2022 - 2024); Worked with other reps and the President to develop expectations for the representatives. The position had been largely nebulous, and we documented the current process, including working with the board on the presentation of the winter survey.

Teaching Workshop Co-Coordinator: (2023); Co-coordinated the workshop for incoming faculty.

Strategic Plan Affordability Design Team: (2023); Participated on the affordability/value design team for the Tier 2 strategic plan.

High School Math Contest: (2020 - 2022); As a member of the planning committee for the High School Math Contests, my primary responsibilities include overseeing the registration process.

Faculty Activity Report AY2023/24

Dr. Eric M Reyes

Rose-Hulman Institute of Technology
Associate Professor
Mathematics
REYESEM@rose-hulman.edu

Teaching/Advising

Courses Taught

Fall-Quarter 2023

BMTH 496, section BMTH496-01, Capstone Experience I. 1 enrolled.

MA 223, section MA223-03, Engineering Statistics I. 24 enrolled.

MA 382, section MA382-01, Intro to Stats w/Probability. 17 enrolled.

MA 382, section MA382-02, Intro to Stats w/Probability. 9 enrolled.

Winter-Quarter 2024

MA 483, section MA483-01, Bayesian Data Analysis. 14 enrolled.

BMTH 497, section BMTH497-01, Capstone Experience II. 1 enrolled.

MA 381, section MA381-02, Intro Probty w/ Appl to Stats. 25 enrolled.

Spring-Quarter 2024

MA 482, section MA482-01, Biostatistics. 19 enrolled.

MA 482, section MA482-ONL, Biostatistics. 1 enrolled.

BMTH 498, section BMTH498-01, Capstone Experience III. 1 enrolled.

MA 223, section MA223-01, Engineering Statistics I. 23 enrolled.

MA 223, section MA223-02, Engineering Statistics I. 25 enrolled.

Course Development

Academic Advising

Total # of Advisees

8

Academic Year

2023-2024

of Advisees who are Freshmen

6.

Other Advising

Student Organization Advising, InterVarsity Christian Fellowship, 30, Meet with Leadership Team (~ 5 students) each week; meet with others at larger meetings once per term., (2014 - Present)

Undergraduate Research Advising, Riya Bharamaraddi, 1, Reproduced selected results from a published paper investigating the characteristics associated with driving under the influence of marijuana among adolescents using data from a national survey., (2023 - 2024)

Professional Development/Research

Faculty Development Activities Attended

Conference Attendance, "Joint Statistical Meetings," American Statistical Association, Portland, OR, United States. Interacted primarily with other educators discussing best practices in statistics education. (August 2024).

Presentations

Reyes, E. M. (Workshop Leader), Rose-Hulman Teaching Workshop, "Developing a Vision," Rose-Hulman, Terre Haute, IN, United States. (August 2024).

Reyes, E. M., Joint Statistical Meetings, "Introducing Survival Analysis with Eye Strength Exercises," American Statistical Association, Portland, OR, United States. (August 2024).

Reyes, E. M., Reyes, J. S., Rose-Hulman Sustainability Network, "Introducing Water Footprints in a Statistics Course," Rose-Hulman, Terre Haute, IN, United States. (May 2024).

Publications

Danek, R., & Reyes, E. M. (submitted). The Effect of Residence and Gender on the Receipt of Prescription Medication. *Community Mental Health Journal*.

Curley, B., Downey, J., Kinnaird, K., Loy, A., & Reyes, E. M. (2023). Questions (and Answers) for Incorporating Nontraditional Grading in Your Statistics Courses. *Journal of Statistics and Data Science Education*. Published. <https://doi.org/https://doi.org/10.1080/26939169.2023.2277851>

Intellectual Property

Sponsor Funded Research

Other Research

Statistical Collaboration with IU School of Medicine, Terre Haute, Industry Funded, Work with medical students on their research for the scholarly concentration. This involves reviewing their proposals and making recommendations regarding an appropriate analysis; it also includes reviewing their drafts. Occasionally, these are full collaborations that seek publication where I am the lead statistician., (August 2019 - Present)

Committees/Service

Committees

Member, Institute Committee on Animal Care and Use: (2015 - Present); I primarily contributed to the creation and maintenance of an electronic form for IACUC submissions and a Teams page for streamlining our review process.

Member, CASO: (2019 - 2024)

Service

Mathematics Group for Program Improvement: (2021 - Present); This committee oversees the assessment program for the mathematics department. It oversees artifact collection, reviews reports from artifact rating sessions, and makes recommendations to the department.

Rose Show Planning Committee: (2020 - Present); As a member of the Rose Show planning committee, my primary responsibilities involve overseeing the registration process and the program creation.

Isolated Statisticians Webmaster, American Statistical Association: (2017 - Present); I maintain the website for the Isolated Statisticians group; this is a network of statisticians who are employed in (primarily academic) settings in which there are few other statisticians.

Moodle Mentor: (2017 - Present)

Innovation by Design - Alternative Programs Action Team: (2024 - 2026); Member.

Teaching Workshop Co-Coordinator: (2024); Co-coordinated the workshop for incoming faculty.

Academic Affairs Faculty Representative to the Board of Trustees: (2022 - 2024); Worked with other reps and the President to develop expectations for the representatives. The position had been largely nebulous, and we documented the current process, including working with the board on the presentation of the winter survey.

C Department Head Reviews

Eric Reyes

Teaching and Student Advising

Eric's teaching is well received. The ratings are consistently very strong, mostly excellent and very good. Students feel well prepared for follow on classes, and frequently comment positively about his enthusiasm and availability. He very frequently has students in his office and the interactions are positive.

He has taught mainly MA223 and two upper division courses. He has expert knowledge in statistics and will become one of the leaders in the teaching of statistics at Rose.

He has agreed to become the math major adviser for students with a concentration in statistics.

Professional Development and Curriculum Development:

Eric activity is strong

- Cardiac Catheterization and Interventional Cardiology Self-Assessment Program Lead author for "Chapter 17.1: Basic Statistics and Analysis for the Interventional Cardiologist."
- Understanding Clinical Research Lead author for "Chapter 15: Analytical Methods of Addressing Confounding." pg 209-226. Editors: Renato Lopes and Robert Harrington. This text was used as the foundation for the last unit in the MA482 (Bioengineering Statistics) course.
- Bayesian Average Error Based Approach to Sample Size Calculations for Hypothesis Testing, Journal of Biopharmaceutical Statistics Reduction in First and Recurrent Cardiovascular Events with Ticagrelor Compared with Clopidogrel in the PLATO study This was consulting work I did for Duke Clinical
- Research Institute.
- Developed MA482 (Bioengineering Statistics) to include 80% new material comprised of 4 new units (nonlinear modeling, survival analysis, missing data methods, and causal inference); this adds a great deal of breadth to the course for ABBE students (the primary audience, for which the class is cross-listed).
- Attended various conferences

Service and Departmental Citizenship

Eric has participated in the departmental service activities consistent with an Assistant Professor. He is participating in one of the curriculum committees in the department and is an active participant in the Departmental discussion.

Summary and Comment

Eric is making a strong start towards tenure in all areas.

Name: Eric Reyes

Date:

2/13/14

eval: AY2012-13

rec: AY2013-14

Department: Mathematics

Current Status:

Tenured

Yes	
No	X
N/A	

Rank/Title

Instructor	
Asst. Prof.	X
Assoc. Prof.	
Professor	
Other	

Retain

Yes	X
No	

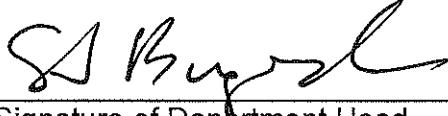
Promote

Yes	
No	X

Award
Tenure

Yes	
No	

Comments: see other side

 13 Feb 14

Signature of Department Head



Signature of faculty member

Academic Affairs Annual Performance Evaluation

DATE: April 9, 2015

NAME: Eric Reyes

TITLE: Assistant Professor

DEPARTMENT: Mathematics

EVALUATION FOR ACADEMIC YEAR: 2013-2014

Teaching and Student Advising

Eric continued his excellent teaching performance in 2013-14. He taught MA 223, Engineering Statistics, each term and received extremely positive reviews from the students. He taught MA 383, Engineering Statistics II, for the first time in the Fall term, and he taught MA 482, Bioengineering Statistics, for the second time in the Spring term; both courses again received extremely positive reviews from the students. His course evaluations are near the top among the entire mathematics department. In addition, he enhanced MA 482 by including statistical topics that often occur in biomedical applications. He is often visited by students, and these interactions are always very positive.

He also advised or helped four student research projects – one was a mathematics senior thesis, one was to analyze data gathered for the Human Powered Vehicle project, one was for a CSSE senior project, and he was a committee member for a BE Master's thesis.

In general, Eric has continued his record of excellent teaching during this academic year.

Professional Development and Curriculum Development:

Eric's professional development activities continue to be very good for an Assistant Professor. He was a co-author on the paper "Role of Diuretics, Beta-Blockers, and Statins in Increasing the Risk of Diabetes in Patients with Impaired Glucose Tolerance: Reanalysis of Data from the NAVIGATOR Study", which appeared in the British Medical Journal. He ended the academic year with two papers under review. In addition, he continued research work in variable screening and selection, part of which forms the basis for a mathematics senior thesis in 2014-15.

Eric presented a talk on "Name-brand vs. Off-brand: a twist on taste testing for a mathematical statistics course" at the Joint Statistical Meetings during the summer of 2014, and he attended the Consortium for the Advancement of Undergraduate Statistics Education Electronic Conference on Teaching Statistics.

Eric also attended a Rose-Hulman workshop and completed an online course regarding the fundamentals of online and blended courses. This work on using the Quality Matters (QM) rubrics has enhanced his face-to-face courses, and he plans to utilize them in later online courses that he will develop.

Each of Eric's professional development activities are appropriate for a faculty member, as they allow and encourage him to grow both in his research area and with his teaching assignments.

Service and Departmental Citizenship

Eric has participated in the departmental service activities consistent with an Assistant Professor. He was a member of our Statistics and Operations Research Curriculum Development Group, and was of great help with the High School Mathematics Competition and the Undergraduate Mathematics Conference. In addition, he served on the Institute's Quality of Education committee.

He was also an excellent departmental citizen. He attended many of our seminars and functions, and was often willing to help with any tasks that needed to be done.

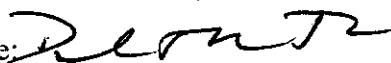
Summary and Comment

Eric continues to make excellent progress towards tenure in all areas. He has proven to be a valuable member of the department.

Recommendations: Eric should be retained, but should not be promoted nor awarded tenure at this time.

My signature below acknowledges that the information presented within this document was clearly communicated to me during the Annual Performance Evaluation, but does not necessarily imply that I agree with this Performance Evaluation.

Faculty Member Signature:  Date: 4-9-2015

Department Head Signature:  Date: 4-9-15



Academic Affairs Annual Performance Evaluation

DATE: December 1, 2015

NAME: Eric Reyes

TITLE: Assistant Professor

DEPARTMENT: Mathematics

EVALUATION FOR ACADEMIC YEAR: 2014-2015

Summary

Eric Reyes continues to make excellent progress towards tenure in all areas. His teaching and course development continues to be high quality, highlighted by his development of a course in Bayesian Statistics. His professional development was outstanding, as evidenced by three published papers and two presentations. His service was also very strong, especially his role as co-chair of the Undergraduate Mathematics Conference. He has proven to be a valuable member of the department, and one who is viewed as a future leader of the department.

Teaching and Student Advising

Eric continued his excellent teaching performance in 2014-15. He taught MA 223, Engineering Statistics, each term and received extremely positive reviews from the students. In the fall he developed MA 480, Bayesian Statistics, which was well-received, he taught MA 481 Mathematical Statistics in the winter and he taught MA 482, Bioengineering Statistics, in the spring term; all of these courses received extremely positive reviews from the students. His course evaluations are near the top among the entire mathematics department. His courses are often revised to utilize current best practices in statistics education. He is often visited by students, and these interactions are always very positive.

Eric also attended a Rose-Hulman workshop and generated an online version of MA 223. He plans to utilize the material within this course as part of a flipped course in the upcoming year.

He also advised or helped two student research projects – one was a mathematics senior thesis and the other was a mathematics senior project. He also was a faculty advisor for InterVarsity Christian Fellowship.

In general, Eric has continued his record of excellent teaching during this academic year.

Professional Development and Curriculum Development:

Eric's professional development activities continue to be outstanding for an Assistant Professor. He was a co-author on the papers "Endoscopic harvesting device type and outcomes in patients undergoing coronary artery bypass surgery", "Tutorial: Survival estimation for Cox regression models with time-varying coefficients", and "Long-term clinical and angiographic outcomes in patients with diabetes undergoing coronary artery bypass graft surgery: Results from the PREVENT-IV Trial". For two of these papers he was the statistician on a clinical paper.

Eric (along with Diane Evans) both presented the talk “Six Sigmas of Separation: Strategies for making interdisciplinary connections” at the US Conference on Teaching Statistics and led the workshop “Engaging intro statistics students with activities”. Both of these presentations showcased Eric’s leadership in undergraduate statistics education.

Each of Eric’s professional development activities are appropriate for a faculty member, as they allow and encourage him to grow both in his research area and with his teaching assignments.

Service and Departmental Citizenship

Eric has participated in the departmental service activities consistent with an Assistant Professor. He was a co-chair of our Undergraduate Mathematics Conference and helped secure funding and support from multiple companies. He chaired our Statistics and Operations Research Curriculum Development Group, and was of great help with the High School Mathematics Competition and the Undergraduate Mathematics Conference. In addition, he served on the Institute’s Quality of Education committee, where he was part of a sub-committee on academic misconduct.

He was also an excellent departmental citizen. He attended many of our seminars and functions, and was often willing to help with any tasks that needed to be done. He is willing to participate in departmental discussions, and often brings useful insights (with evidence) to the conversations.

Recommendations: Eric should be retained, but should not be promoted nor awarded tenure at this time.

My signature below acknowledges that the information presented within this document was clearly communicated to me during the Annual Performance Evaluation, but does not necessarily imply that I agree with this Performance Evaluation.

Faculty Member Signature:  Date: 12-1-2015

Department Head Signature:  Date: 12/1/15



Academic Affairs Annual Performance Evaluation

DATE: March 8, 2017

NAME: Eric Reyes

TITLE: Assistant Professor

DEPARTMENT: Mathematics

EVALUATION FOR ACADEMIC YEAR: 2015-2016

Summary

Eric Reyes continues to make excellent progress towards tenure in all areas. His teaching and course development continues to be high quality, highlighted by his redevelopment of the Statistical Programming course. His professional development was outstanding, as evidenced by three published papers and two presentations. His service was also very strong, especially his role as co-organizer of the Undergraduate Mathematics Conference. He has proven to be a valuable member of the department, and one who continues to be viewed as a future leader of the department.

Teaching and Student Advising

Eric's teaching continues to be excellent; he has become one of the top educators in the department. This year he taught MA 223, MA 386 Statistical Programming, MA 485 Applied Regression Analysis and MA 482 Bioengineering Statistics; in each case the course was extremely well-organized and the students were quite positive about the learning experience. Eric completely revamped MA 223 this year, teaching it as a flipped classroom each term by using material he developed for the online MA 223 course. Most students enjoyed this approach, and Eric found small ways to improve the course each term. He also changed MA 386 from a SAS-based course to an R-based course. He also changed the topics so that it had more of a Data Science feel. This course fits well with our future plans in statistics and data science. Finally, he taught MA 485 for the first time with great success.

He also advised or helped three student research projects – one was a computer science senior thesis (Wenjun Kong), one was on the math portion of her MA/ECON senior project (Amy Kamperman), and the other was the beginning of a mathematics senior thesis (Xiaomo Wang). In addition, he served as a committee member for a Masters' thesis.

In addition, Eric served as the minor advisor for Statistics, and was the advisor for two mathematics majors. He also was a faculty advisor for InterVarsity Christian Fellowship.

In general, Eric has continued his record of excellent teaching during this academic year.

Professional Development and Curriculum Development:

Eric's professional development activities continue to be very strong for an Assistant Professor. He was a co-author on the paper "Micromotion at the tibial plateau in primary and revision total knee arthroplasty: fixed versus rotating platform designs," which was published in the journal *Bone & Joint Research*; he was the statistician on a clinical paper.

In addition, Eric made presentations at the Joint Statistical Meetings. He served as a panelist for a session about opportunities for statisticians at small colleges, and he led a round-table discussion on Specification Grading in the Statistics Classroom.

Furthermore, Eric received an internal KEEN course development grant to infuse entrepreneurial-minded learning into his Statistical Programming course. Also for this course, Eric attended a workshop sponsored by the American Statistical Association on Machine Learning from a Statistical Perspective.

Each of Eric's professional development activities are very appropriate for a faculty member, as they allow and encourage him to grow both in his research area and with his teaching assignments.

Service and Departmental Citizenship

Eric has participated in the departmental service activities consistent with an Assistant Professor. He was a co-organizer of our Undergraduate Mathematics Conference, he served on our Hiring Committee, he chaired our Statistics and Operations Research Curriculum Development Group, and he was of great help with the High School Mathematics Competition. In addition, he served on the Institute's Animal Care and Use committee. Finally, he served on a joint ASA-MAA Committee on Statistics Education, which is making recommendations regarding statistics curriculum at the undergraduate level.

He was also an excellent departmental citizen. He attended many of our seminars and functions, and was often willing to help with any tasks that needed to be done. He is willing to participate in departmental discussions, and often brings useful insights (with evidence) to the conversations.

Recommendations: Eric should be retained, but should not be promoted nor awarded tenure at this time.

My signature below acknowledges that the information presented within this document was clearly communicated to me during the Annual Performance Evaluation, but does not necessarily imply that I agree with this Performance Evaluation.

Faculty Member Signature:  Date: 3-8-17

Department Head Signature:  Date: 3/8/17



Academic Affairs Annual Performance Evaluation

DATE: August 16, 2017

NAME: Eric Reyes

TITLE: Assistant Professor

DEPARTMENT: Mathematics

EVALUATION FOR ACADEMIC YEAR: 2016-2017

Summary and Recommendation

Eric should be promoted to Associate Professor and awarded tenure. His teaching and his professional development are very strong, and his service is more than appropriate for an assistant professor. He is looked upon as a future leader of the department.

Teaching and Student Advising

Eric's teaching continues to be excellent. This year he taught MA 223, MA 386 Statistical Programming, MA 481 Mathematical Statistics and MA 482 Bioengineering Statistics; each course was extremely well-organized and the students were quite positive about the learning experience. MA 386 was part of a KEEN course development grant, through which he revised the weekly portfolio assignments. He also taught MA 381 Introduction to Probability for the first time, with again very positive results. This year Eric utilized specification-based grading in each of his classes, with excellent results. Most students appreciated this approach, and Eric found small ways to improve this approach each term.

He also advised three student capstone experiences within the department. In addition, Eric served as the minor advisor for Statistics. He also was a faculty advisor for InterVarsity Christian Fellowship.

In general, Eric has continued his record of excellent teaching during this academic year.

Professional Development and Curriculum Development:

Eric's professional development activities continue to be very strong for an Assistant Professor. He presented work at a talk at the Joint Statistics Meeting this summer, which was joint work with one of his senior thesis students, and he also gave a talk on statistics education at North Carolina State University. He also presented a peer-reviewed workshop on Specifications Grading at the US Conference on Teaching Statistics. Finally, he attended a workshop on how to revise a statistics curriculum to be more project-based.

Each of Eric's professional development activities are very appropriate for a faculty member, as they allow and encourage him to grow both in his research area and with his teaching assignments.

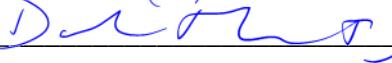
Service and Departmental Citizenship

Eric has participated in the departmental service activities consistent with an Assistant Professor. He was a co-organizer of our Undergraduate Mathematics Conference, he chaired our Statistics and Operations Research Curriculum Development Group, and he was of great help with the High School Mathematics Competition, where he helped organize and revamp our registration process. In addition, he served on the Institute's Animal Care and Use committee. He was also a member of the Data Science Core Group, which helped develop the data science minor, and he worked with Corporate Engagement to host the Big Data Summit. Finally, he continues to serve on a joint ASA-MAA Committee on Statistics Education, which is making recommendations regarding statistics curriculum at the undergraduate level.

He was also an excellent departmental citizen. He attended many of our seminars and functions, and was often willing to help with any tasks that needed to be done. He is willing to participate in departmental discussions, and often brings useful insights (with evidence) to the conversations.

My signature below acknowledges that the information presented within this document was clearly communicated to me during the Annual Performance Evaluation, but does not necessarily imply that I agree with this Performance Evaluation.

Faculty Member Signature:  Date: 8-16-17

Department Head Signature:  Date: 8/16/17



Academic Affairs Annual Performance Evaluation

DATE: January 9, 2019

NAME: Eric Reyes

TITLE: Associate Professor

DEPARTMENT: Mathematics

EVALUATION FOR ACADEMIC YEAR: 2017-2018

Summary and Recommendation

Eric was promoted to Associate Professor and awarded tenure after the 2017-18 academic year. His teaching is excellent, his professional development is very good, and his service is more than appropriate for an associate professor. He is looked upon as a future leader of the department.

Teaching and Student Advising

Eric's teaching continues to be excellent. This year he taught MA 223, MA 386 Statistical Programming, MA 480 Bayesian Statistics and MA 482 Bioengineering Statistics; each course was extremely well-organized and the students were quite positive about the learning experience. During the year Eric worked on an experimental curriculum with Megan Heyman for MA 223, one that was proposed and later adopted by the department. Throughout the year he continued to make substantive changes both to the curriculum and to his implementation of it, producing a quality course. MA 480 was offered for the second time with very positive results. The changes he made from the first offering greatly improved the course. This year Eric continued to utilize specification-based grading in each of his classes, with excellent results. Most students appreciated this approach, and Eric found small ways to improve this approach each term.

He also advised two student capstone experiences within the department. In addition, Eric served as the minor advisor for Statistics.

In general, Eric has continued his record of excellent teaching during this academic year.

Professional Development and Curriculum Development:

Eric's professional development activities continue to be very good. He co-presented with Megan Heyman a webinar on "Introducing data science elements through parallel courses in statistics and computing" through

the Electronic Conference on Teaching Statistics. He was also part of a round table discussion through the same conference on whether the Central Limit Theorem is still central to an introductory statistics course.

Both of these activities are very appropriate for a faculty member, as they allow and encourage him to grow both in his teaching and his research. Now that Eric has earned tenure and starts to look towards promotion to full professor, it is appropriate that he look to expand his professional development activities in both research and pedagogy.

Service and Departmental Citizenship

Eric is a strong participant in the departmental service activities. He was a co-organizer of our Undergraduate Mathematics Conference, he chaired our Statistics and Operations Research Curriculum Development Group, and he was of great help with the High School Mathematics Competition, where he helped organize and revamp our registration process. In addition, he served on the Institute's Animal Care and Use committee and the Quality of Education committee. He also was a faculty advisor for InterVarsity Christian Fellowship and the Lilly Scholars Network. Finally, he continues to serve on a joint ASA-MAA Committee on Statistics Education, which is making recommendations regarding statistics curriculum at the undergraduate level.

He was also an excellent departmental citizen. He attended many of our seminars and functions and was often willing to help with any tasks that needed to be done. He is willing to participate in departmental discussions, and often brings useful insights (with evidence) to the conversations.

My signature below acknowledges that the information presented within this document was clearly communicated to me during the Annual Performance Evaluation, but does not necessarily imply that I agree with this Performance Evaluation.

Faculty Member Signature:  Date: 5-24-2021

Department Head Signature:  Date: 5/24/21



Academic Affairs Annual Performance Evaluation

DATE: February 10, 2021

NAME: Eric Reyes

TITLE: Associate Professor

DEPARTMENT: Mathematics

EVALUATION FOR ACADEMIC YEAR: 2018-2019

Summary and Recommendation

Eric is making progress towards promotion to full professor. His teaching is excellent, his professional development is very good, and his service is strong. He is looked upon as a leader of the department and institute.

Teaching and Student Advising

Eric's teaching continues to be excellent. This year he taught MA 223, MA 386 Statistical Programming, MA 481 Mathematical Statistics and MA 482 Biostatistics; each course continued to be well-organized and the students were quite positive about the learning experience. In MA 223 he taught a redesigned curriculum with positive results. He continues to use mastery-based grading in each of his classes, with excellent results. Most students appreciated this approach, and Eric found small ways to improve this approach each term.

He also advised four student capstone experiences within the department. In addition, Eric served as the minor advisor for Statistics.

In general, Eric has continued his record of excellent teaching during this academic year.

Professional Development and Curriculum Development:

Eric's professional development activities continue to be very good. He co-authored a paper "Primary stability with cementless rotating platform total knee arthroplasty" which was published in the Journal of Knee Surgery. He also gave two workshops – one on Analyzing and visualizing data for the 2019 Summer Undergraduate Research Community and another (with Sylvia Carlisle) on Specifications-based grading. Eric also served as an advisor for students within the IU School of Medicine Terre Haute on research they were conducting.

Eric's professional development activities point towards continued growth. He is encouraged to continue pursuing such activities.

Service and Departmental Citizenship

Eric's service remains strong. He was a co-organizer of our Undergraduate Mathematics Conference, he served on our Statistics and Operations Research Curriculum Development Group, and he was of great help with the High School Mathematics Competition, where he helped organize and revamp our registration process. In addition, he served on the Institute's Animal Care and Use committee and the Faculty Affairs Committee. He was also a member of the Provost/VPAAC Search Committee in the Spring of 2019. He also was a faculty advisor for InterVarsity Christian Fellowship and the Lilly Scholars Network. Finally, he continues to serve on a joint ASA-MAA Committee on Statistics Education, which is making recommendations regarding statistics curriculum at the undergraduate level.

He was also an excellent departmental citizen. He attended many of our functions and was often willing to help with any tasks that needed to be done. He is willing to participate in departmental discussions, and often brings useful insights (with evidence) to the conversations. Eric is also becoming one of the leaders within the department; he is someone that others seek for advice and opinions. He is quickly becoming a role model for younger faculty.

My signature below acknowledges that the information presented within this document was clearly communicated to me during the Annual Performance Evaluation, but does not necessarily imply that I agree with this Performance Evaluation.

Faculty Member Signature:  Date: 5-24-2021

Department Head Signature:  Date: 5/24/21



Academic Affairs Annual Performance Evaluation

DATE: February 10, 2021

NAME: Eric Reyes

TITLE: Associate Professor

DEPARTMENT: Mathematics

EVALUATION FOR ACADEMIC YEAR: 2019-2020

Summary and Recommendation

Eric continues to make excellent progress towards promotion to full professor. His teaching is excellent, his professional development is very good, and his service is strong. Eric was on mini-leave during the fall term. He is looked upon as a leader of the department and institute.

Teaching and Student Advising

Eric's teaching continues to be excellent. This year he taught MA 223, MA 483 Bayesian Statistics and MA 482 Biostatistics; each course continued to be well-organized and the students were quite positive about the learning experience. He makes adjustments to each of his courses upon reflection, and these changes greatly improve the courses. In MA 223 he teaches the course primarily as a flipped course which allows the students to engage with the material. He continues to use mastery-based grading in each of his classes, with excellent results. Most students appreciated this approach, and Eric found small ways to improve this approach each term.

He also advised three student capstone experiences within the department. In addition, Eric served as the minor advisor for Statistics.

In general, Eric has continued his record of excellent teaching during this academic year.

Professional Development and Curriculum Development:

Eric's professional development activities continue to be very good. During the fall term mini-leave he consulted with InterVarsity Christian Fellowship, modeling the growth of college chapters to identify characteristics of "healthy" chapters. He (and Megan Heyman) gave a talk on "Using a Practicum as the Cumulative Assessment in Introductory Statistics" through the Electronic Conference on Teaching Statistics in

May 2020; they were later invited back to further discuss their insights as a conference “Hot Topic.” He was also part of a campus group investigating the impact of the Summer Undergraduate Research Community.

Eric was also part of the “peer mentor” team that led the Creating Adaptable Courses course for faculty preparing to teach courses in the Fall of 2021. He helped to structure some of the activities and the overall syllabus of the course.

Eric’s professional and curriculum development activities point towards continued growth. He is encouraged to continue pursuing such activities.

Service and Departmental Citizenship

Eric service remains very good. Within the department he was a member of Statistics and Operations Research Curriculum Development Group. In addition, he served as chair of Faculty Affairs Committee. Finally, he continues to serve as faculty advisor for InterVarsity Christian Fellowship and the Lilly Scholars Network. He was also the departmental representative on CASO.

He was also an excellent departmental citizen. He attended many of our functions and was often willing to help with any tasks that needed to be done. He is willing to participate in departmental discussions, and often brings useful insights (with evidence) to the conversations. His leadership and mentoring of faculty who were developing adaptable courses for the 2020-21 academic year was important and notable. He is viewed as a leader within the department and his thoughts are often sought when issues arise within the department. He continues to be a role model for younger faculty.

My signature below acknowledges that the information presented within this document was clearly communicated to me during the Annual Performance Evaluation but does not necessarily imply that I agree with this Performance Evaluation.

Faculty Member Signature:  Date: 5-24-2021

Department Head Signature:  Date: 5/24/21



Academic Affairs Annual Performance Evaluation

DATE: April 15, 2022

NAME: Eric Reyes

TITLE: Associate Professor

DEPARTMENT: Mathematics

EVALUATION FOR ACADEMIC YEAR: 2020-2021

The unprecedented changes in teaching required by the pandemic environment in 2020 and 2021 limited faculty time and energy for other activities—indeed, for professional life in general. Faculty activity during this period must be understood within this context.

Summary and Recommendation

During the 2020-21 academic year Eric continued to make excellent progress towards promotion to full professor. His teaching is excellent, his professional development is excellent, and his service is very strong. He is looked upon as a leader of the department and institute.

Teaching and Student Advising

Eric's teaching continues to be excellent. This year he taught MA 223, MA 386 Statistical Programming and MA 482 Biostatistics; each course continued to be well-organized, and the students were quite positive about the learning experience. Eric used his experience with the Creating Adaptable Courses program (of which he was one of the leaders) to transform these courses into hybrid courses, crafting videos and appropriate assessments designed to take advantage of a flipped classroom experience. He continues to use mastery-based grading in each of his classes, with excellent results. Most students appreciated this approach, and Eric continues to find ways to improve this approach each term. Eric also offered two independent study courses (SAS Programming and Nonparametric Inference) for students seeking to learn more advanced statistics topics.

He also advised a student capstone experience within the department. In addition, Eric served as the minor advisor for Statistics.

In general, Eric has continued his record of excellent teaching during this academic year.

Professional Development and Curriculum Development:

Eric's professional development activities were excellent this year. Eric continued to work as part of the "peer mentor" team that led the Creating Adaptable Courses program for faculty preparing to teach courses for the 2020-21 academic year. He worked closely with faculty, especially within the department, to ensure that their courses were well-suited for teaching in the pandemic environment. He then disseminated his experiences from this program through various entities. He published the peer-reviewed blogs "Specifications-grading: An Overview" and "Specifications-grading: An Example" within the StatTLC Blog. He also co-authored the chapter "Creating Adaptable Courses: A course design approach that accommodates flexible delivery" for the book *Resilient Pedagogy*. He also published the paper "Sharing in my students' struggles to foster their success" for the Journal for Research and Practice of College Teaching. Finally, he was an invited presenter during the Indiana MAA Project NExT panel discussion on lessons learned from the pandemic.

In addition, Eric created videos to accompany the Schaum's Outlines in Probability book.

Eric's professional and curriculum development activities point towards continued growth and future promotion to the rank of professor.

Service and Departmental Citizenship

Eric's service remains very strong. Within the department he was a member of the Statistics and Operations Research Curriculum Development Group. In addition, he served as a member of the Faculty Affairs Committee. Finally, he continues to serve as faculty advisor for InterVarsity Christian Fellowship. He was also the departmental representative on CASO.

He was also an excellent departmental citizen. He attended many of our functions and was often willing to help with any tasks that needed to be done. He is willing to participate in departmental discussions, and often brings useful insights (with evidence) to the conversations. His leadership and mentoring of faculty who were developing adaptable courses for the 2020-21 academic year was important and notable. He is viewed as a leader within the department and his thoughts are often sought when issues arise within the department. He continues to be a role model for younger faculty.

My signature below acknowledges that the information presented within this document was clearly communicated to me during the Annual Performance Evaluation but does not necessarily imply that I agree with this Performance Evaluation.

Faculty Member Signature:  Date: 5-17-22

Department Head Signature:  Date: 5/17/22



Academic Affairs Annual Performance Evaluation

DATE: February 20, 2023

NAME: Eric Reyes

TITLE: Associate Professor

DEPARTMENT: Mathematics

EVALUATION FOR ACADEMIC YEAR: 2021-2022

The unprecedented changes in teaching required by the pandemic environment in 2020 and 2021 limited faculty time and energy for other activities—indeed, for professional life in general. Faculty activity during this period must be understood within this context.

Summary and Recommendation

During the 2021-22 academic year Eric continued to make excellent progress towards promotion to full professor. His teaching is excellent, his professional development is excellent, and his service is very strong. He continues to be looked upon as a leader of the department and institute.

Teaching and Student Advising

Eric's teaching continues to be excellent. This year he taught MA 223, MA 382, MA 386 Statistical Programming, MA 482 Biostatistics and MA 483 Bayesian Data Analysis; each course continued to be well-organized, and the students were quite positive about the learning experience. He continues to use mastery-based grading in many of his classes, with excellent results. Most students appreciated this approach, and Eric continues to find ways to improve this approach each term. He also tried “ungrading” methods in a course, with positive results. He also created a 1-credit seminar course MA 490 Social Justice and Statistical Concepts

He also advised a student biomathematics capstone experience within the department and helped advise a graduate student. In addition, Eric served as the minor advisor for Statistics.

In general, Eric has continued his record of excellent teaching during this academic year. He continues to make small improvements to his courses with positive results.

Professional Development and Curriculum Development:

Eric's professional development activities were very good this year. He continued his collaboration with the IU School of Medicine, where he works with medical students on their research. He also led various sessions at the Faculty Teaching Workshop and was a panelist in a session of the American Statistical Association regarding non-traditional grading in statistics courses.

Eric's professional and curriculum development activities point towards continued growth and future promotion to the rank of professor. He should explore how to get more students involved in his research, especially for their capstone experiences.

Service and Departmental Citizenship

Eric's service remains excellent. Within the department he was chair of the Mathematics Group for Program Improvement, which oversees the assessment of the mathematics program. He also served on the planning committee for the High School Math Contest. He was also the departmental representative on CASO, and he continues to serve as the departmental Moodle Mentor.

Eric was also very active with Institute service. He was a member of the Animal Care and Use Committee, and a member of the Rose Show Planning Committee. He was also the Teaching Workshop Convener and a convener for one of the campus Reading Groups. In addition, he served on the Hiring Committee for a new Economics faculty member and also as the internal consultant for the Mathematics Department Head search. Finally, he continues to serve as faculty advisor for InterVarsity Christian Fellowship.

He was also an excellent departmental citizen. He attended many of our functions and was often willing to help with any tasks that needed to be done. He is willing to participate in departmental discussions, and often brings useful insights (with evidence) to the conversations. He is viewed as a leader within the department and his thoughts are often sought when issues arise within the department. He continues to be a role model for younger faculty.

My signature below acknowledges that the information presented within this document was clearly communicated to me during the Annual Performance Evaluation but does not necessarily imply that I agree with this Performance Evaluation.

Faculty Member Signature:  Date: 2/20/23

Department Head Signature:  Date: 2/20/23



Academic Affairs Annual Performance Evaluation

DATE: March 14, 2024

NAME: Eric Reyes

TITLE: Associate Professor

DEPARTMENT: Mathematics

EVALUATION FOR ACADEMIC YEAR: 2022-2023

Summary and Recommendation

During the 2022-23 academic year Eric continued to make excellent progress towards promotion to full professor. His teaching is excellent, his professional development is excellent, and his service is very strong. He continues to be looked upon as a leader of the department and institute.

Teaching and Student Advising

Eric's teaching continues to be excellent. This year he again taught MA 223, MA 386 Statistical Programming, MA 482 Biostatistics; each course continued to be well-organized, and the students were quite positive about the learning experience. He continues to use mastery-based grading in many of his classes, with excellent results. Most students appreciated this approach, and Eric continues to find ways to improve this approach each term. He also taught a cross-listed course MA 490 Social Justice and Statistical Concepts with an HSSA professor. This course was well received by the students.

He also was the academic advisor for 6 Y1 ME students.

In general, Eric has continued his record of excellent teaching during this academic year. He continues to make small improvements to his courses with positive results.

Professional Development and Curriculum Development:

Eric's professional development activities were very good this year and encompass both statistical analysis and pedagogical work. He continued his collaboration with the IU School of Medicine, where he works with medical students on their research. This led to a publication in the *Journal of Regional Medical Campuses*. In

addition, Eric presented work on non-traditional grading at the US Conference on Teaching Statistics. He also led various sessions at the Institute's Faculty Teaching Workshop and was a panelist and co-organizer in a session of the Midwest Conference on the Scholarship of Teaching and Learning regarding alternative assessment approaches.

Eric's professional and curriculum development activities point towards continued growth and future promotion to the rank of professor. He should explore how to get more students involved in his research, especially for their capstone experiences.

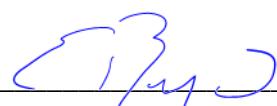
Service and Departmental Citizenship

Eric's service remains excellent. Within the department he was chair of the Mathematics Group for Program Improvement, which oversees the assessment of the mathematics program. He also served on the planning committee for the High School Math Contest. He was also the departmental representative on CASO, and he continues to serve as the departmental Moodle Mentor.

Eric was also very active with Institute service. He was a member of the Animal Care and Use Committee, and a member of the Rose Show Planning Committee. He was also the Teaching Workshop Co-Coordinator. In addition, he served on one of the Strategic Plan Affordability Design Teams. Finally, he continues to serve as faculty advisor for InterVarsity Christian Fellowship.

He was also an excellent departmental citizen. He attended many of our functions and was often willing to help with any tasks that needed to be done. He is willing to participate in departmental discussions, and often brings useful insights (with evidence) to the conversations. He is viewed as a leader within the department and his thoughts are often sought when issues arise within the department. He continues to be a role model for younger faculty.

My signature below acknowledges that the information presented within this document was clearly communicated to me during the Annual Performance Evaluation but does not necessarily imply that I agree with this Performance Evaluation.

Faculty Member Signature:  Date: 3-14-24

Department Head Signature:  Date: 3/14/24



Academic Affairs Annual Performance Evaluation

DATE: March 14, 2024

NAME: Eric Reyes

TITLE: Associate Professor

DEPARTMENT: Mathematics

EVALUATION FOR ACADEMIC YEAR: 2022-2023

Summary and Recommendation

During the 2022-23 academic year Eric continued to make excellent progress towards promotion to full professor. His teaching is excellent, his professional development is excellent, and his service is very strong. He continues to be looked upon as a leader of the department and institute.

Teaching and Student Advising

Eric's teaching continues to be excellent. This year he again taught MA 223, MA 386 Statistical Programming, MA 482 Biostatistics; each course continued to be well-organized, and the students were quite positive about the learning experience. He continues to use mastery-based grading in many of his classes, with excellent results. Most students appreciated this approach, and Eric continues to find ways to improve this approach each term. He also taught a cross-listed course MA 490 Social Justice and Statistical Concepts with an HSSA professor. This course was well received by the students.

He also was the academic advisor for 6 Y1 ME students.

In general, Eric has continued his record of excellent teaching during this academic year. He continues to make small improvements to his courses with positive results.

Professional Development and Curriculum Development:

Eric's professional development activities were very good this year and encompass both statistical analysis and pedagogical work. He continued his collaboration with the IU School of Medicine, where he works with medical students on their research. This led to a publication in the *Journal of Regional Medical Campuses*. In

addition, Eric presented work on non-traditional grading at the US Conference on Teaching Statistics. He also led various sessions at the Institute's Faculty Teaching Workshop and was a panelist and co-organizer in a session of the Midwest Conference on the Scholarship of Teaching and Learning regarding alternative assessment approaches.

Eric's professional and curriculum development activities point towards continued growth and future promotion to the rank of professor. He should explore how to get more students involved in his research, especially for their capstone experiences.

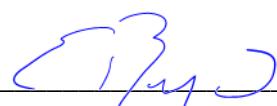
Service and Departmental Citizenship

Eric's service remains excellent. Within the department he was chair of the Mathematics Group for Program Improvement, which oversees the assessment of the mathematics program. He also served on the planning committee for the High School Math Contest. He was also the departmental representative on CASO, and he continues to serve as the departmental Moodle Mentor.

Eric was also very active with Institute service. He was a member of the Animal Care and Use Committee, and a member of the Rose Show Planning Committee. He was also the Teaching Workshop Co-Coordinator. In addition, he served on one of the Strategic Plan Affordability Design Teams. Finally, he continues to serve as faculty advisor for InterVarsity Christian Fellowship.

He was also an excellent departmental citizen. He attended many of our functions and was often willing to help with any tasks that needed to be done. He is willing to participate in departmental discussions, and often brings useful insights (with evidence) to the conversations. He is viewed as a leader within the department and his thoughts are often sought when issues arise within the department. He continues to be a role model for younger faculty.

My signature below acknowledges that the information presented within this document was clearly communicated to me during the Annual Performance Evaluation but does not necessarily imply that I agree with this Performance Evaluation.

Faculty Member Signature:  Date: 3-14-24

Department Head Signature:  Date: 3/14/24