**Graphical user interface, application, email

Description automatically generated**

**Home**

**Teacher**

Hi, my name is Brian Veitch. I am a math instructor at Northern Illinois University and McHenry County College. At NIU I am the director of the department's Mathematics Assistance Center. I primarily teach our calculus sequence as well as coordinate the finite mathematics course. At MCC I usually teach statistics courses.

I've also done some additional teaching outside the classroom. A few years ago, I helped run a summer math camp where I taught them about encryption and code-breaking. I also worked with NIU Outreach with a program called Stem Read. I showed them how mathematics, puzzles, and encryption were used. The first one I did was Maze Runner. I designed an activity about code-breaking. And showed them how you can overlay images (such as mazes) to form words or codes.

**Student**

I started taking classes at McHenry County College in the Mobile App Design and Development program at MCC. My goal is to get a job in mobile or web development. Over the last few years, I've developed a couple of iOS apps and JavaScript programs to help my students in the classroom. You can check those out in the portfolio section.

I'm currently taking iOS programming, UI Design, and web design (this class).

**Family**

I am married to a wonderful person and have two boys, ages 1 and 4. When I am not teaching, grading, doing homework, or attending classes I am spending time with them. We like to play board games, go for bike rides, and engage in all sorts of shenanigans that annoy their mother.

**Resume**

**Education**

* Associates in Applied Sciences, Mobile App Design and Development, McHenry County College, anticipated graduation December 2022
* Master of Science in Mathematics, Northern Illinois University, August 2007
* Bachelor of Science in Mathematics, Northern Illinois University, June 2006

**Teaching Experience**

* Mathematics Instructor, Northern Illinois University, August 2007 – Present
* Mathematics Instructor, McHenry County College, June 2019 – Present

**Professional Experience**

* Director of the Mathematics Assistance Center, Northern Illinois University, January 2013 – Present
* Content Creator, YouTube, June 2010 - Present
* Content Creator, NIU Outreach, Northern Illinois University, June 2014 – June 2015
* Assistance Math Camp Director, Northern Illinois University, July 2013

**Portfolio**

**YouTube**

I started making YouTube videos around 2010. My channel has a couple of hundred videos about calculus, encryption/code-breaking, and finite mathematics. I made the videos to supplement my in-class teaching. I continue to make them because they are fun to film and edit.

I've always been interested in encryption and code-breaking. I helped run a math camp at NIU a few years ago. My activities were all about encryption/code-breaking. The campers enjoyed it so I created online encryption/decryption websites with YouTube videos on how to use them. They include different substitution methods, Vigenère cipher, and

RSA encryption. The RSA encryption is cool because there's a lot of high-level math involved.

**Programming – iOS**

One of my biggest YouTube videos is on the Simplex Method (around 400,000 views). Since my students also struggle with this method, I decided to create two apps to help teach these techniques. One is called Row Reduction, and it helps students solve systems of equations. The second is called the Simplex Method, and it helps solve systems of linear inequalities. It's important to note that they DO NOT just solve the problems. I programmed it to let you practice the technique, make mistakes, and learn from them. I included a hint option to help when you get stuck. There are dozens of simulators (even a graphing calculator) that can solve these. But none of them let the user practice by choosing the operations themselves.

**Programming - JavaScript**

This was one of the first games I made. When learning to program, I followed tutorials on how to make an online tic tac toe game using JavaScript. Afterward, I wanted to make an Extreme Tic Tac Toe game. It involves two players trying to win the large Tic Tac Toe board by competing to win the smaller boards. The difficulty is when a player chooses a square in the small board the other player must move to the corresponding large square and play that board. You must try to work out a few moves ahead to try to force the second player to move you where you want.

**Programming – JavaScript**

I was trying to figure out some real-world applications to solve a system of equations. Though are many, very few are fun. Lights out is a children's game where you click a circle to turn on or off that light. However, all adjacent lights will also turn on or off.

The feature that I share with my students is the solution option. It will indicate which lights must be pressed to successfully turn off all the lights. It involves solving a massive system of equations. For example, a 3x3 grid requires us to solve a system with 9 equations and 9 variables. An 11x11 grid requires us to solve a system of equations with 121 equations and 121 variables. The hardest system we teach in any algebra class is 3 equations and 3 variables. So imagine how hard 121 equations/variables would be.

**Hobbies**

**Woodworking**

When I have more time in the summer, I like to build stuff.  Sometimes I build for family and friends, like the planter above.  Sometimes I just build things that look cool.  I saw a picture of a unique chessboard, and I decided to build it for myself. A lot of times I just build things to see if I can do it.

Instead of buying the product, I get to spend time building with my father-in-law and my son.  My son loves to help, and I look forward to teaching him more.

**Board Games**

My family and I are avid board gamers.  However, it is difficult to find games we all enjoy.  For example, my favorite board game is chess.  No one in my family plays or wants to learn. We generally stick to cooperative board games like Forbidden Island, Pandemic, etc. We are quite competitive so playing a cooperative game means we all win or all lose.  It saves us from the normal ending I'm sure we've all experienced while playing Monopoly - someone flipping the board over and stomping off.  Occasionally we'll play competitive games like Settlers of Catan, Lords of Waterdeep, or Qwirckle.

**Reading**

After I get my work done, do my homework, and put the kids to bed, I finally have time to read.  My favorite genre is Fantasy.  In my senior year of high school, we did a unit on Lord of the Rings.  I fell in love with that book and the genre.  My favorites are the KingKiller Chronicle by Patrick Rothfuss and anything written by Brandon Sanderson.