Aaron Niskin

Curriculum Vitae

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Education

2012–2015 **Bachelor of Science in Mathematics with Minors in Physics and English**, *Florida International University*, Miami, *GPA – 3.64 (3.79 in major)*.
Graduated Cum Laude

2010–2011 **Associate of Arts**, *Miami Dade College*, Miami, *GPA – 3.74*.
Graduated with Honors

Academic Honors

Dean's List (6 times), Florida International University

Dean's List (5 times), Miami Dade College

Phi Theta Kappa Honor Society Membership, Miami Dade College

Physics Award, Miami Dade College

Main Courses Taken

Advanced Calculus in $\mathbb{R}^n$, *(2 semesters)*.
- Differentiation and Integration in $\mathbb{R}^n$
- Integration on Chains
- Fubini's Theorem
- Rank Theorem, Inverse Function Theorem, Implicit Function Theorem
- Stokes' Theorem

Abstract Algebra, *(2 semesters)*.
- Group theory using Category Theory
- Group actions
- Sylow Theorems
- General Theory of Rings, Fields and Modules
- Jordan Normal Form

Advanced Differential Equations.
- Fourier Series approximation of piecewise smooth functions
- Legendre Polynomials
- Bessel Functions

Complex Variables, *(Independent Study)*.
- Differentiation, line integration and path independence of line integrals in $\mathbb{C}$
- Euler's Formula, Disc of Convergence, Multifunctions, Möbius Transformations, Inversion, Conformal Mappings, Riemann Sphere, Cauchy-Riemann Equations

Axiomatic Set Theory.
- Constructed the Von Neumann Ordinals from the Axioms
- Constructed L and WF using the Von Neumann Ordinals

Methods in the History of Modern Mathematics.
- Derivation of Kepler's Laws
- Some basic Riemannian and Pseudo-Riemannian Geometry

Introduction to Differential Geometry.
- Curves in $\mathbb{R}^n$
- Local Theory of Surfaces
- Intrinsic Geometry of Surfaces including, geodesics, Theorema Egregium and Theorem of Gauss-Bonnet
- Riemannian Manifolds, Curvature Tensor, Ricci tensor
- Basics on Lie groups and Lie Algebras

Introduction to Algebraic Geometry.
- The Zariski Topology
- Hilbert's Nullstellensatz
- Co-equivalence of the category of closed affine (over k) sets and the category of affine k algebras

Classical Mechanics, *(2 semesters)*.
- Euler-Lagrange equations, Lagrangian Mechanics
- Orbital Mechanics, System Dynamics, Collisions and Scattering, Noninertial Reference Frames, Rigid Body Rotation, Coupled Oscillators Normal Coordinates, and Wave Motion.

Other Relevant Courses Taken

- Thermodynamics
- Solid State Physics
- Mathematical Statistics
- Point Set Topology
- Mathematical Methods in Physics
- Number Theory
- Mathematical Logic
- Modern Physics (2 semesters)

Experience

2004–2006 **Civil Affairs Specialist**, *US Army*, Perrine, FL.
- Trained in Special Operations weapons and tactics at the John F. Kennedy Special Warfare Center and School in Fort Bragg, NC for 6 months.

2006–2009 **Infantryman**, *2nd ID, US Army*, Fort Lewis, WA.
- Deployed to Iraq from 2007-2008
- Held positions as a Rifleman, M-240B assistant gunner, M-249 SAW gunner, Radio Telephone Operator, Grenadier, Designated Marksman, and a Team Leader.
- Combat Lifesaver certification
- Assisted in fighting the Tripod Complex forest fire in Winthrop, Washington.

2010–Present **Math/Science/Computing Tutor**, Wyzant, Miami.

2013–2014 **Math Dept. Learning Assistant**, Florida International University, Miami.

2015–2016 **Computer Science Instructor**, Florida Vocation Institute, Miami.

Computer skills

Basic Java, Python

Intermediate Clojure, Scheme, Hoplon, JavaScript, CSS, HTML, Latex

Languages

English **Native**

Spanish **Advanced** *Conversationally fluent and Literate*

Hebrew **Intermediate** *Conversationally fluent*

German **Basic** *Basic words and phrases only*

Interests

- Guitar
- Cooking
- Running
- Languages
- Poetry
- Writing
- Travel