



# GTEAMs at BASIS Tucson North

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## Teacher Biography

Tatiana Kolesikova is originally from Slovakia. She attended the Comenius University in Bratislava where she received her Masters degree in Teaching Mathematics and Physics at the Faculty of Mathematics, Physics, and Informatics. She has been teaching at BASIS for almost 14 years and has taught every course from pre-algebra to vector calculus and differential equations.

## Fellow Biography

Alex Young is a third year PhD student in the Applied Mathematics Program here at the University of Arizona. His research interests include applications of kinetic theory, dynamical systems, and nonlinear PDEs to the study of collective motion arising in physics and biology.

## Plans and Projects

- Primary focus of the GTEAMs fellow is working with the senior capstone course on Multivariable Calculus.
- Responsibilities for the fellow include:
  - Directing and evaluating end-of-chapter projects for students
  - Supplying supplementary examples and visuals
  - Teaching daily lectures

## Student Work

## Student Responses

- We got to hear how and where topics would develop as we continue our education.
- Having Mr. Young in the classroom provided a different and enticing insight which wouldn't have been possible in a traditional classroom.
- I have enjoyed the ability to ask my GTEAMs fellow more in depth questions about project problems.
- I learned how to approach higher level math problems, as well as more complex ideas, through the projects that we would complete with GTEAMs help.

## Acknowledgements

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## References

- Project Problems taken from
  - Stewart, *Calculus AP Edition 7<sup>th</sup> Edition*
  - Stewart, *Calculus: Early Transcendentals Vol. 2 OSU Edition*
  - Davis, Snyder, *Intro. To Vector Analysis, 7<sup>th</sup> Edition*
- Interactive GUIs are written and displayed in MATLAB R2013B