

Honors Tutorial College

Student Tutorial Description Form

TO BE COMPLETED BY THE STUDENT AND SUBMITTED BY EMAIL TO THE HTC honors.college@ohio.edu
AND TO YOUR DOS BY 5:00 ON THE 2ND FRIDAY OF THE SEMESTER

Student Name Benjamin Carman		Program of Study Mathematics	
Tutorial Number MATH 3980T	Academic Year 2018-2019	Academic Semester Spring	
First and Last Name of Tutor Xiaoping Shen			
Tutor's Department Mathematics			

Description: Please write a clear and concise description of the academic terrain the tutorial will cover. (250 word maximum)

This tutorial will cover the topic of Computer Vision with a particular focus on the mathematical structures, operations, and theories on which the field has been built. This tutorial will be supported by a number of texts including *Modern Mathematics and Applications in Computer Vision* by Hongyu Guo; *Robotics, Vision, and Control: Fundamental Algorithms in MATLAB* by Peter Corke; and *Robot Vision* by Berthold K.P. Horn. The tutorial will cover in detail algebras (i.e. linear, tensor, exterior, and geometric), geometries (i.e. projective, differential, and non-Euclidian), as well topology, manifolds, Hilbert spaces, and more. Largely, these studies will focus on theory and be supported by some exercises in their applications. This will make for the perfect pairing to tutorial studies in computer vision in the computer science department which will take a much heavier focus on programming, applications, and implementation of the theory learned in this tutorial.

****You must register for your tutorial by 5:00 on the second Friday of the semester. ****