



# Michigan Tech

## UN5390: Scientific Computing I

Fall 2016

Project Status Report ( $1\% \times 5$  weeks)

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Using fourth order Runge-Kutta adaptive time step method to simulate the celestial free return trajectory followed by a spacecraft in the earth-moon gravitational field

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### Week #10

1. Did you meet with your advisor(s) to discuss research this week?

Yes. I did meet Dr.Gowtham from 11 to 11:10 AM ,November 2.

2. What did you do this week (past Saturday through this Friday)?

Discussed about the potential project ideas with Dr.Gowtham. Chose the “Apollo 16 on HPC” as my term project. Studied about the gravity slingshot technique. Working on the workflow as expected in the project Description.

3. What are you planning on doing next week (this Saturday through next Friday)?

To work on the project workflow and getting the equations set up and tested starting from Newton’s law of Gravitation.

4. What were (are) the difficulties/obstacles you faced (facing)?

The main difficulty is coming up with a good workflow and setting up the equations as of now.

5. What is the approximate percentage progress?

5%

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