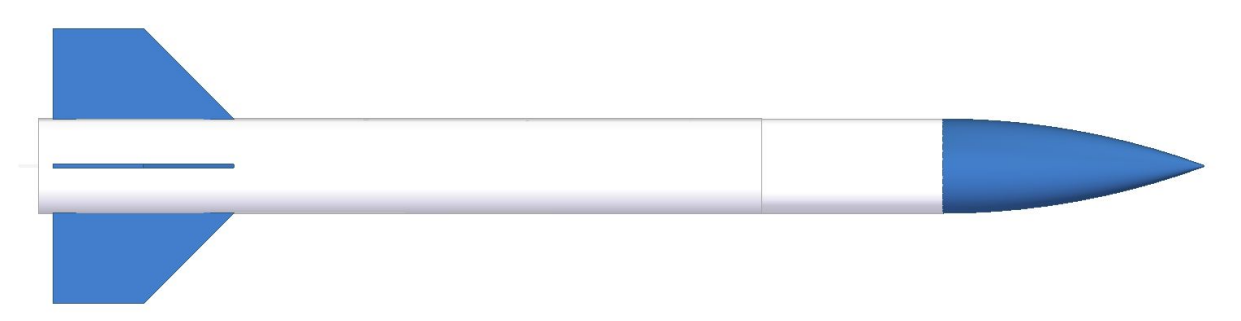


L1 Month: Utilizing High Power Rocketry as a Training Tool for Student Organizations

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Overview



High-power rocketry is an amateur pastime that allows certified individuals to build and launch rockets with up to 40,960 N-s of installed impulse. L1 Month provides Space Hardware Club (SHC) Members a hands-on introduction to high-power rocketry while presenting engineering concepts that can be beneficial to both their academics and future club projects.



Week 1
Classes



Week 2
Design & Simulation



Week 3
Manufacturing



Week 4
Flight

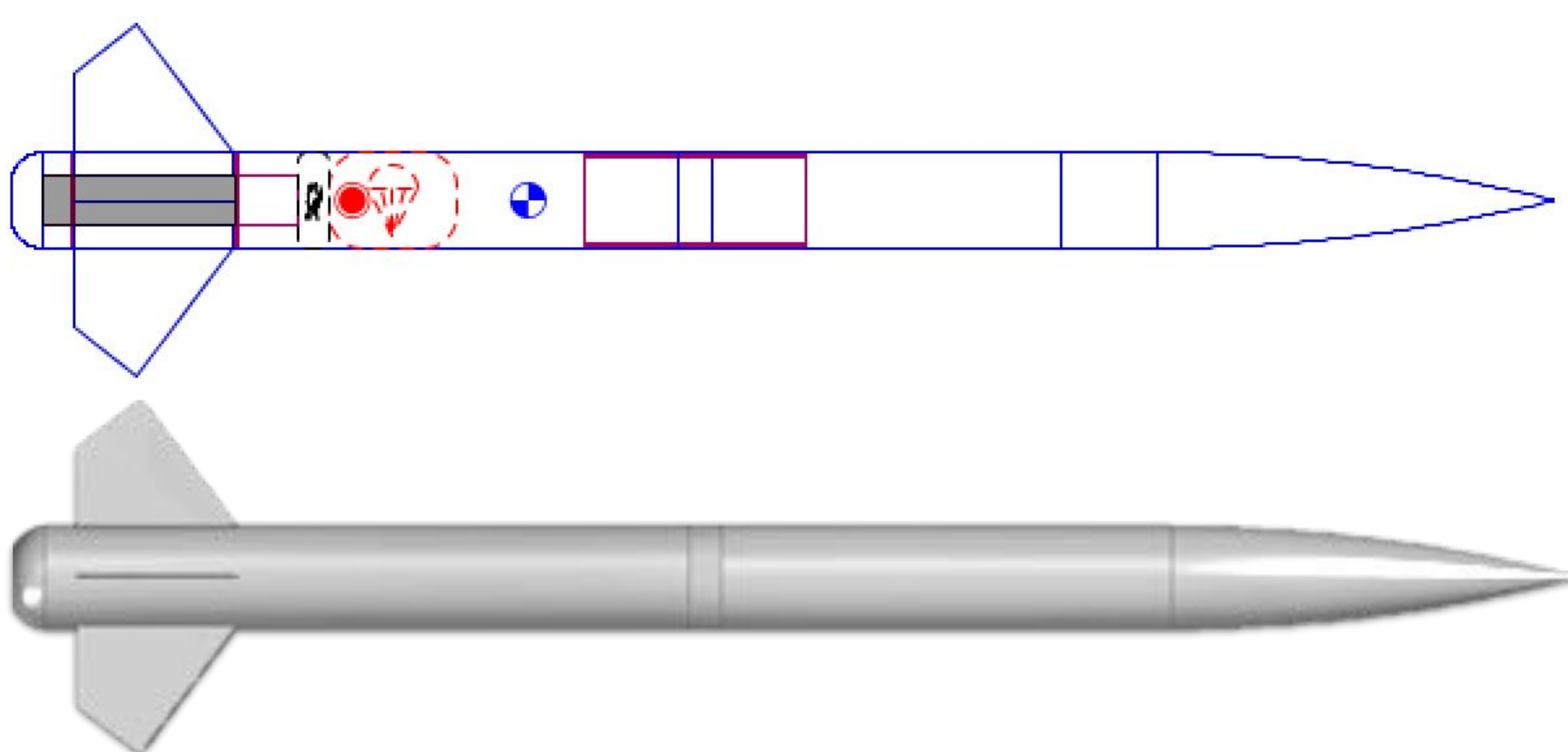


Classes

- Introduction to Rocketry
- OpenRocket Flight Simulation
- Introduction to CAD
- Advanced Flight Simulation
- Advanced CAD and Finite Element Analysis



Design and Simulation



All rockets are modeled in OpenRocket, an open source flight simulation software, as well as SolidEdge CAD software



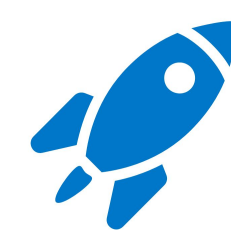
Manufacturing

- Tour of UAH Machine Shop
- Sheet and Cylindrical Wet Composite Layups
- Fitting and Adjustment of Components
- Assembly of Airframe

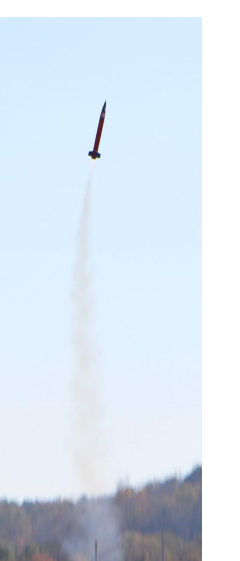


Flight Readiness Review

- Up-to-date Flight Simulation
- Finished Mission Operations Manual
- Safely Assembled Vehicle



Launch Day



Benefits of Participation

- CAD experience
- Composite design and fabrication
- Hands-on engineering
- Design with manufacturing limitations
- Easier transition into more advanced projects

Acknowledgements

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