**Resources**

Resources which may be helpful:

Note: Some of the articles below are behind paywalls. Check with your institution's library, you probably have access.

**Technical Resources:**

* [Holo-Sextant-An Augmented Reality Planetary EVA](https://nasastem.okstate.edu/courses/250/files/59814/download?wrap=1)
* [NASA Task Load Index](https://humansystems.arc.nasa.gov/groups/tlx/) , [TLX Video](https://www.youtube.com/watch?v=-1R-k2WxKNU) , [TLX pdf](https://humansystems.arc.nasa.gov/groups/tlx/downloads/TLXScale.pdf)
* [Harper-Cooper Scale](https://ntrs.nasa.gov/api/citations/19690013177/downloads/19690013177.pdf) , [scale only](https://commons.wikimedia.org/wiki/File:NASA_diagram_of_Cooper-Harper_rating_scale.jpeg)
* [Training Astronauts using Hardware-in-the-Loop Simulations and Virtual Reality](https://arc.aiaa.org/doi/10.2514/6.2020-0167)
* [Augmented reality technologies, systems and applications](https://link.springer.com/article/10.1007%2Fs11042-010-0660-6)
* [Virtual Technologies Trends in Education](https://www.ejmste.com/article/virtual-technologies-trends-in-education-4674)
* [Defining Virtual Reality: Dimensions Determining Telepresence](https://academic.oup.com/joc/article-abstract/42/4/73/4210117?redirectedFrom=fulltext)
* [The state of immersive technology research: A literature analysis](https://www.sciencedirect.com/science/article/abs/pii/S0747563218301857?via%3Dihub)
* [Opportunities and Challenges of Promoting Scientific Dialog throughout Execution of Future Science-Driven Extravehicular Activity](https://www.liebertpub.com/doi/10.1089/ast.2018.1901)
* [Decision Support System Requirements Definition for Human Extravehicular Activity Based on Cognitive Work Analysis](https://journals.sagepub.com/doi/10.1177/1555343416672112)
* [Assessment of Decision Support Systems for Envisioned Human Extravehicular Activity Operations: From Requirements to Validation and Verification](https://journals.sagepub.com/doi/abs/10.1177/1555343419871825)
* [Next-Generation Human Extravehicular Spaceflight Operations Support Systems Development](https://www.researchgate.net/publication/320290594_Next-Generation_Human_Extravehicular_Spaceflight_Operations_Support_Systems_Development)
* [Information flow model of human extravehicular activity operations](https://ieeexplore.ieee.org/document/7118942)
* [HoloLens2 Emulator](https://docs.microsoft.com/en-us/windows/mixed-reality/develop/advanced-concepts/using-the-hololens-emulator)

**NASA Resources:**

* [Operational Assessment of Apollo Lunar Surface Extravehicular Activity](https://ntrs.nasa.gov/citations/20170007261)
* [U.S. Spacesuit Knowledge Capture](https://nescacademy.nasa.gov/catalogs/cfd4cdc970c046358afc1c2e5f72a0554d)
* [Conduct of Geologic Field Work During Planetary Exploration: Why Geology Matters](https://ntrs.nasa.gov/citations/20120012010)
* [Apollo 17 EVA Cuff Checklists](https://www.hq.nasa.gov/alsj/a17/cuff17.html)
* [NASA SUITUP](https://www.nasa.gov/suitup)
* [Artemis III Science Definition Team Report](https://www.nasa.gov/sites/default/files/atoms/files/artemis-iii-science-definition-report-12042020c.pdf)
* [3D Resources](https://nasa3d.arc.nasa.gov/)
* [Joint Augmented Reality Visual Informatics System Project- HID Prototype System Goals for FY22](https://ntrs.nasa.gov/api/citations/20210023831/downloads/Joint%20Augmented%20Reality%20Visual%20Informatics%20System%20Project%20HID%20Prototype%20System%20Goals%20for%20FY22%20Updated.pdf)

**Outreach Resources:**

* [NASA STEM Website](https://www.nasa.gov/stem)
* Artemis Mission [website](https://www.nasa.gov/specials/artemis/) | [resources](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fnasa-external-ocomm.box.com%2Fs%2Fonrtmdvofqluv5ei5kfu5u1pf8v4xqtl&data=04%7C01%7Cadam.c.peterson%40nasa.gov%7C28a1bef059804c7fb32208d994c08614%7C7005d45845be48ae8140d43da96dd17b%7C0%7C0%7C637704376906772163%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=9QXH0iOGqy4Sv1kU0gZe%2BnNMe%2BpcEcAoLc%2FGhK7cZk4%3D&reserved=0)
* [Tynker's Hour of Code Return to the Moon](https://www.tynker.com/hour-of-code/nasa-return-to-moon)
* [SUITS Press Releases fy22.docx](https://nasastem.okstate.edu/courses/250/files/83319?wrap=1)Updated?

**Skilling Opportunities:**

* [Microsoft Virtual Training Days](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.microsoft.com%2Fen-us%2Ftrainingdays&data=04%7C01%7Cadam.c.peterson%40nasa.gov%7Cd41827a7a15145a4512a08d9940a4bff%7C7005d45845be48ae8140d43da96dd17b%7C0%7C0%7C637703594212460640%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=hOqc3IdYiWsgLXdPCD65FxHvv3vRCJnFlWdV3jkuWw4%3D&reserved=0)
* [Microsoft | 30 Days to Learn It](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdeveloper.microsoft.com%2Fen-us%2Foffers%2F30-days-to-learn-it&data=04%7C01%7Cadam.c.peterson%40nasa.gov%7Cd41827a7a15145a4512a08d9940a4bff%7C7005d45845be48ae8140d43da96dd17b%7C0%7C0%7C637703594212470605%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=zVulZv%2BoRgHq7pwLa6qVvB7BSWc%2BnDkVNMG1BVVWuLY%3D&reserved=0)
* [Free Learning Paths for Top Jobs (linkedin.com)](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fopportunity.linkedin.com%2Fskills-for-in-demand-jobs&data=04%7C01%7Cadam.c.peterson%40nasa.gov%7Cd41827a7a15145a4512a08d9940a4bff%7C7005d45845be48ae8140d43da96dd17b%7C0%7C0%7C637703594212470605%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=CEZfUzz9uLEkVFT8XsZm7Eqnj0ZFzzEroZ50U7EPp%2BY%3D&reserved=0)

\*NASA SUITS does have a Space Act Agreement with Microsoft. However, sharing these resources is not an endorsement.