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IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Enabling the Future: Developing the Space Workforce (5)

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USING SCIENCE FICTION TO INSTRUCT TECHNICAL AUDIENCES ON SPACE LAW, POLICY, AND ETHICS

Abstract

Space students and aspiring young professionals receive technical space education and skills training in technical university programs. They often, however, lack substantive and procedural knowledge of fundamental concepts in space law, policy, and ethics. Incorporating these interdisciplinary subjects in technical space education can help develop a more well-rounded, informed space workforce. The demand for technical aerospace expertise is growing with the burgeoning commercial space industry, and this multidisciplinary industry calls for an evolving holistic educational approach. Teaching and honing skills in identifying and evaluating issues in space law, policy, and ethics enables a future space workforce to keep pace with the dynamic industry and ensures sustainable, thoughtful approaches to space exploration and commercialization. Much in the same way that legal and business education utilize case studies and hypotheticals, applied examples lends to developing and reinforcing substantive and applied knowledge. This will allow students—future space industry leaders—to better understand the commercial space sector's societal impact while developing thoughtful and prudent decision-making skills.

Science fiction and popular culture provide a useful lens for understanding and applying law, policy, and ethics principles to real-world issues and encourages critical thinking to evaluate the many global complexities raised by space activities. Accordingly, this paper will provide a pedagogical framework that incorporates film and television science fiction-based scenarios for use as an effective method to explore space law, policy, and ethics issues and implications for technical audiences. Rather than taking a broad, theoretical approach to teaching these subjects, this paper's framework will show how educators may use specific science fiction scenarios to engage technical audiences with these essential issues. With an eye toward the future of the space industry, educators can also use this framework to discuss future commercial space issues (e.g., an orbital hotel or Martian settlement) and the role of law, policy, and ethics in addressing these endeavors. To illustrate, this paper will analyze scenarios from three science fiction works—The Avengers (2012), The Martian (2015), and AppleTV+'s For All Mankind (2019–)—and describe how, through engaging discussions and written assessments, these scenarios can be used in technical education settings to demonstrate actions germane to (or in violation of) current space law and policy frameworks. Ultimately, this work aims to establish a basis for the use of case study-based curricula for educating technical audiences in pertinent space governance topics.