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Course unit English denomination	<b>INFORMATION LITERACY &amp; OPEN SCIENCE FOR PHYSICS AND ASTRONOMY PHD STUDENTS</b>
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Teacher in charge	Barbara Serino Claudio Corbellini Monica Santarosa Filippo Vomiero
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Teaching Hours	12
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Number of ECTS credits allocated	3
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Course period	First semester
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Course delivery method	<input checked="" type="checkbox"/> In presence <input type="checkbox"/> Remotely <input type="checkbox"/> Blended
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Language of instruction	English
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Mandatory attendance	<input checked="" type="checkbox"/> Yes (50% minimum of presence) <input type="checkbox"/> No
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Course unit contents	<p><b>Module 1: Research in the library</b></p> <ul style="list-style-type: none"><li>• Learn research strategies to get the best results</li><li>• Use GalileoDiscovery, the Library system discovery service to search for books, articles, journals and many other resources</li><li>• Learn the search techniques implemented by databases, to access relevant academic articles</li><li>• Browse the web to find academic content</li></ul> <p><b>Module 2: Mindful citation: understanding copyright in Academia</b></p> <ul style="list-style-type: none"><li>• Foundations of intellectual property law</li><li>• Citations and plagiarism</li><li>• Non-Textual elements: ethical use of images, tables and graphs</li><li>• Reuse in various contexts (scientific publications, conferences, educational settings)</li></ul> <p><b>Module 3: Scholarly communication</b></p> <ul style="list-style-type: none"><li>• Scholarly communication and publication cycle</li><li>• Types of publication</li><li>• The functions of scientific journals</li><li>• How to choose the journal (journal/article-level metrics, researcher metrics, CC licenses, OA colours: green, gold &amp; hybrid, diamond)</li><li>• Publication process (article versions, peer review)</li><li>• How to identify a predatory publisher</li></ul>
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#### Module 4: Open Science and institutional repositories at the University of Padova

- Open access mandates to scientific publications and research data
- Repositories; UniPd institutional archive of the scientific production: Padua Research Archive (IRIS)
- The management of research data (DMP, FAIR principles, Research Data Unipd)
- Facilitations for authors (read & publish agreements)
- UniPd Library System services for authors

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Learning goals	<ul style="list-style-type: none"><li>- Develop advanced research skills using library resources, databases, and web-based academic content.</li><li>- Understand intellectual property law, citation practices, and ethical use of content in academic contexts.</li><li>- Comprehend the scholarly communication cycle, including publication types, journal selection, and the peer review process.</li><li>- Gain knowledge of Open Access models, Creative Commons licenses, and strategies to identify predatory publishers.</li><li>- Learn about Open Science principles, including Open Access mandates and FAIR data management practices.</li><li>- Master the use of institutional repositories and discover University of Padova's specific tools and services for researchers.</li><li>- Develop skills in research data management, including creating Data Management Plans and applying FAIR principles.</li><li>- Discover author facilitations and services provided by the University of Padova Library System.</li></ul>
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Teaching methods	The course employs a blend of traditional and interactive teaching approaches. Lectures provide traditional classroom instruction to deliver core content and concepts. Interactive sessions utilize digital tools like Wooclap to enhance student engagement and real-time participation.
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Course on transversal, interdisciplinary, transdisciplinary skills	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Available for PhD students from other courses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Prerequisites  
(not mandatory)

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Examination methods  
(if applicable)

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Suggested readings	Aczel, Balazs, et al. "The present and future of peer review: Ideas, interventions, and evidence", <i>Proceedings of the National Academy of Sciences</i> 122.5 (2025):
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e2401232121. <https://doi.org/10.1073/pnas.2401232121>

Don Rosa. "Guardians of the Lost Library" in *Uncle Scrooge Adventures* 27, July 1994.

Gong, Ke. "Open science: The science paradigm of the new era", *Cultures of Science*, 5.1 (2022): 3-9. <https://doi.org/10.1177/20966083221091867>

Lisciandra, Chiara. "Citation Metrics: A Philosophy of Science Perspective." *Episteme* (2024): 1-15. <https://doi.org/10.1017/epi.2024.46>

Mačiulienė, Monika, "Beyond Open Access: Conceptualizing Open Science for Knowledge Co-creation", *Frontiers in communication*, 7 (2022) <https://doi.org/10.3389/fcomm.2022.907745>

Martín, Karim J. Gherab. "The dual function of open access scholarly communication: An arXiv case study." *TECHNO REVIEW. International Technology, Science and Society Review/Revista Internacional de Tecnología, Ciencia y Sociedad* 10.2 (2021): 199-211. <https://doi.org/10.37467/gkarevtechno.v10.3196>

*Policy sulla gestione dei dati della ricerca*, Università degli Studi di Padova (2018). <https://www.unipd.it/sites/unipd.it/files/2018/policy%20dati%20ricerca.pdf>

*UNESCO Recommendation on Open Science*, UNESCO (2021). <https://unesdoc.unesco.org/ark:/48223/pf0000379949>

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Additional information

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