



Foundations of Research & Academic Inquiry

Course Description:

This 12-week live online course provides a comprehensive introduction to the principles and practices of academic research. Designed for undergraduate students from all disciplines (Science, Arts, and Commerce), this course demystifies the research lifecycle—from formulating a question and designing a study to writing, publishing, and communicating findings. Students will learn universal research skills, ethical considerations, and how to navigate the world of academic scholarship, preparing them for their final year projects, future postgraduate studies, and evidence-based careers.

Target Audience: Undergraduate students (any year, any major).

Duration: 3 Months (12 weeks)

Format: 1 live interactive class per week (90-120 minutes), followed by 1 practical assignment.

Key Outcome: Students will complete the course with a solid research proposal or a draft of a literature review on a topic of their choice.

Weekly Breakdown

Month 1: The Research Ecosystem & Design

Week 1: What is Research? Demystifying the Inquiry Process

- Live Class Topics:
 - Introduction to the course.
 - What is research? (Definitions for Sciences, Arts, and Commerce).
 - The importance of research skills in academia and industry.
 - The research lifecycle: From idea to impact.
 - Identifying your own research interests.
- Assignment: "My Research Landscape." Students will write a 300-word reflection on a problem or question they are curious about in their field and identify one potential source of information.

Week 2: Laying the Groundwork: Research Design & Question Formulation

- Live Class Topics:
 - Types of research: Qualitative vs. Quantitative (with examples from different fields).
 - Formulating a strong, focused Research Question.
 - Introduction to research objectives and hypotheses.
 - The role of a literature review in shaping your question.
- Assignment: Develop a primary research question and two sub-questions for a potential mini-project.



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Week 3: The Hunter-Gatherer Scholar: Research Data Management & Information Literacy

- Live Class Topics:
 - How to find credible sources: libraries, databases (Google Scholar, JSTOR, PubMed, etc.), and grey literature.
 - Evaluating sources (The CRAAP test: Currency, Relevance, Authority, Accuracy, Purpose).
 - Introduction to basic Research Data Management (RDM): organizing files, notes, and references.
 - Introduction to citation and why it matters.
- Assignment: Find 5 credible sources related to your research question from Week 2 and create a properly formatted reference list using a common style (e.g., APA, MLA).

Week 4: Ethics, Integrity, and Inclusive Research

- Live Class Topics:
 - Fundamentals of research ethics: plagiarism, fabrication, falsification.
 - Introduction to the SAGER Guidelines (Sex and Gender Equity in Research): Why considering gender and diversity improves research.
 - Ethical data collection and handling (with examples from human subjects, historical texts, and market data).
 - The importance of Inclusion and Diversity in research teams and topics.
- Assignment: Write a short analysis of a case study, identifying the ethical breach and proposing a solution. OR Critique a provided abstract using SAGER guidelines.

Month 2: The Craft of Writing & The Path to Publication

Week 5: The Art of Academic Writing: Clarity, Structure, and Argument

- Live Class Topics:
 - Fundamentals of manuscript/preparation: IMRaD structure vs. Essay structure.
 - Developing a clear and logical argument.
 - Writing with clarity and precision; avoiding jargon.
 - Technical writing skills: writing abstracts, introductions, and conclusions.
- Assignment: Write a 400-word introduction for a hypothetical paper based on your research question.

Week 6: Navigating the Publication World

- Live Class Topics:
 - Fundamentals of publishing: how academic journals work.
 - "Finding the Right Journal": understanding aims & scope, indexing, open access vs. subscription, and avoiding predatory journals.
 - Introduction to Open Science: its principles and importance.
 - Publishing in different fields: commonalities and differences.
- Assignment: Students will find two potential target journals for their hypothetical paper and justify their choice based on criteria discussed in class.

Week 7: Demystifying Peer Review

- Live Class Topics:
 - Fundamentals of peer review: what is it and why is it the cornerstone of science/scholarship?
 - The different types of peer review (Single-blind, Double-blind, Open).
 - The author's perspective: How to respond to reviewer comments professionally.
 - The reviewer's perspective: How to critically assess a manuscript (becoming a peer reviewer).
- Assignment: "Peer Review Simulation." Students will be given a short, flawed sample abstract or paragraph and will write a constructive peer review report.

Week 8: Funding and Collaborative Research

- Live Class Topics:
 - Introduction to research funding: where to find grants (university, national, private).
 - The basics of a grant proposal.
 - The power and challenges of research collaborations (interdisciplinary, international).
 - Tools for collaborating effectively online.
- Assignment: Draft a one-page project summary for a hypothetical grant application, outlining the problem, method, and expected outcome.

Month 3: Refinement, Communication, and Impact

Week 9: Navigating the Peer Review Process (Practicum)

- Live Class Topics:
 - Deep dive into common reviewer requests and how to address them.
 - Writing a persuasive response letter to reviewers.
 - Dealing with rejection and criticism constructively.
 - The path to becoming a certified peer reviewer (overview of courses).
- Assignment: Students will receive "reviewer comments" on their Week 5 introduction and draft a response letter.

Week 10: Communicating with Confidence: Beyond the Journal

- Live Class Topics:
 - Why public communication of research matters (Social Impact).
 - "Ensuring Visibility": using academic profiles (ORCID), social media (X, LinkedIn), and repositories.
 - Crafting an "elevator pitch" for your research.
 - Building confidence in presenting your work.
- Assignment: Create a 3-slide PowerPoint summary or a 200-word lay summary of their research project for a public audience.

Week 11: Measuring and Understanding Research Impact

- Live Class Topics:
 - Introduction to Research Metrics: what are citations, h-index, Altmetrics?
 - How to use metrics responsibly (what they measure well, and what they don't).
 - The debate around metrics and their role in a scholar's career.
 - Focusing on real-world impact over just metrics.
- Assignment: Students will analyze the metrics of a well-known paper or professor in their field and write a short reflection on what those numbers might indicate.



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Week 12: Capstone & Course Wrap-Up

- Live Class Topics:
 - Student Presentations: Each student presents a 3-minute "research pitch" on their course project.
 - Recap of the entire research journey.
 - Next steps: How to continue building research skills.
 - Q&A and feedback session.
- Final Assignment (due at the end of the week): Submit a complete, polished Research Proposal OR a detailed Literature Review Outline based on the work done throughout the course.

Course Materials & Tools

- All reading materials will be provided as PDFs or links to open-access resources.
- Recommended Tools: Zotero/Mendeley (for reference management), Google Scholar, University Library Portal.

Assessment & Certification

- Certificate of Completion: Awarded to students who complete at least 10 out of 12 assignments.
- Certificate of Excellence: Awarded to students who demonstrate outstanding work in all assignments and the final project.
- Assessment is based on participation and completion of practical assignments, not on exams, to encourage a growth mindset.

This syllabus provides a robust, practical, and inclusive foundation for any undergraduate student embarking on their research journey. Good luck with your course