# 2023-2024 Spring INS5004 RESEARCH METHODS AND SCIENTIFIC ETHICS Gr:3 Assistant Prof. Hande ALADAĞ Tuesday 10:00-12:00 D1-133

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Construction Management Division, Room: 1-063				
Lecturer Info	Web: http://avesis.yildiz.edu.tr/haladag			
	Mail: haladag@yildiz.edu.tr			
	Tel: 0212 383 5258			
Course Objectives	The objective of this course is to develop a fundamental			
	understanding of			
	<ul> <li>preparation of manuscript and thesis,</li> </ul>			
	presentation techniques and			
	ethics in research.			
Course Content	Developing an effective scientific writing			
	Scientific ethical issues and preventing unethical behavior			
	<ul> <li>Presentation skills and techniques</li> </ul>			
Recommended or Required Reading	Ranjit Kumar, "Research Methodology: A Step-by-Step Guide for			
	Beginners", Sage Publications Ltd, 3rd Edition, 2010.			
	Barbara Gastel, Robert A. Day, "How to Write and Publish A			
	Scientific Paper", Cambridge University Press, 8th Edition, 2016.			
	Prof. Dr. Dursun Kırbaş ve Dr. Filiz Ekim Çevik, "Bilimsel     Aracturma Väntamlari va Aracturma Etiği", Nahal Tın Kitabaylari			
	Araştırma Yöntemleri ve Araştırma Etiği", Nobel Tıp Kitabevleri, Tic. Ltd. Şti, 2017, İstanbul. (in Turkish)			
	<ul> <li>Cumhur Ertekin, Nihat Berker, Aslıhan Tolun, Dinçer, "Bilimsel</li> </ul>			
	Araştırmada Etik ve Sorunlar". Türkiye Bilimler Akademisi (TÜBA)			
	yayınları, 2002, Ankara. (in Turkish)			
	<ul> <li>Niyazi Karasar, "Bilimsel Araştırma Yöntemi", Taş Yayınları, 1984,</li> </ul>			
	Ankara. (in Turkish)			
	Şener Büyüköztürk, Özcan Aygün, Ebru Kılıç Çakmak, Şirin     Karadaniz "Pilimsal Arastırma Yöntəmləri" Bogam Yayınsılık (in			
	Karadeniz, "Bilimsel Araştırma Yöntemleri", Pegem Yayıncılık. (in Turkish)			
	Students who successfully complete this course will have			
Course Learning Outcomes	the following competences:			
	Learn how to do research.			
	Learn the importance of ethics in research.			
	Learn how to prepare an efficient scientific paper.			
	Assignment-1	%40		
	<ul><li>PP Presentation: %30</li></ul>			
Evaluation System	Article Review Report: %10			
	Assignment-2	%60		
	<ul><li>Submission of an article</li></ul>			
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# **INS5004 RESEARCH METHODS AND SCIENTIFIC ETHICS**

Week	Date	Subjects	
2	27.02.2024	General information about the course (Course Objectives, Course Contents, Evaluation system)	
3	05.03.2024	<ul> <li>Developing an Effective Scientific Writing—I</li> <li>How to Prepare the Title</li> <li>How to List the Authors and Addresses</li> <li>How to Write Effective Abstract &amp; Introduction</li> <li>How to Develop Effective Tables and Figures         <ul> <li>How to Write an Effective Materials and Methods</li> </ul> </li> </ul>	
4	12.03.2024	<ul> <li>Developing an Effective Scientific Writing—II</li> <li>How to Write Effective Results &amp; Discussion &amp; Conclusion</li> <li>How to State the Acknowledgments</li> <li>How to Cite the References</li> <li>Effective Word Usage in Scientific Writing</li> </ul>	
5	19.03.2024	Presentation Skills and Techniques  Ethics Interests  • Engineering Ethics / Research Ethics / Publication Ethics  • Related Regulations	
6	26.03.2024	NO CLASS	
7	02.04.2024	NO CLASS	
8	09.04.2024	NO CLASS (Eve of Ramadan Fest)	
9	16.04.2024	NO CLASS	
10	23.04.2024	NO CLASS (National Sovereignty and Children's Day)	
11	30.04.2024	Student Presentations (Article Review)  • An oral presentation of an article review	
12	07.05.2024	Student Presentations (Article Review)  • An oral presentation of an article review	
13	14.05.2024	Student Presentations (Article Review)  • An oral presentation of an article review	
14	21.05.2024	Student Presentations (Article Review)  • An oral presentation of an article review	

# Assignments for INS5004 for the remainder of the term.

## **ASSIGNMENT-1 (ARTICLE REVIEW):**

**Assignment Content:** PP Presentation + Article review report.

- Find a <u>KEY ARTICLE</u> related to your research. The article should be published in a journal that should be <u>indexed in SCI or SSCI or SCI-Expanded</u>.
- Give a brief information about the article's:
  - o Title
  - Writers
  - Journal name, volume, number, pages, year of publication
- Give a brief information obtained from the content of article
  - Description of the problem
  - o Background of the study or related literature
  - Research question of the article
  - Hypothesis of the article (if there is any)
  - Methods used in the article (model development, experimental study, case study, comparative evaluation, literature research etc.)
  - Basic quantities (variables, parameters, constants)
  - Findings (results) related with research question
  - Is there any other interesting findings or secondary outcomes of the paper other than research question?
  - Discussions of the article
  - Limitations of the study (if there is any)
  - Conclusion of the article (main contribution of the study, suggestions for future studies)
- Write down your evaluation about the importance of the research paper in couple of paragraphs.
- ARTICLE REVIEW should also include the following information:
  - Analysis of references cited in the article. How many (as percentages) references belong to last 5, 10, 15, 20 years or so on?
  - When is the article submitted and when is accepted? And when is published?
  - Search the authors of in Google Scholar or Web of Science and try to find their H-index or their number of publications etc.
  - o Find out how many times this article was cited by others.
  - o Find out Q index and impact factor of the journal.
  - Or any other interesting findings about the paper or about the authors, their research group or their project that supports their study.
- The presentation duration is about 15 minutes that means you should prepare 15±5 slides for your presentation.
- Prepare your presentation in PowerPoint 2003 format.
- Presentations will be held on 11 and 14<sup>th</sup> week.
- Along with your presentation, prepare an article review report as a word document (no more than three pages).
- Send your PP presentation and article review to the lecturer's e-mail before your presentation day. (<a href="mailto:haladag@yildiz.edu.tr">haladag@yildiz.edu.tr</a>)

### **ASSIGNMENT-2:**

**Assignment Content:** Students are expected to write a scientific article.

- On the final examination date, submit your research paper (article) both as a soft and hardcopy. For softcopy submission use haladag@yildiz.edu.tr
- Your final work should be eligible in terms of suggested steps of scientific research methods.
- Final work should include the following content:
  - Present background of your study,
  - Present your problem statement,
  - Conduct a literature review for your own research and explain originality of the work,
  - Explain hypotheses of your research in couple of paragraphs (if you have),
  - Determine and give information about the suggested methodology that you are going to use (why this method? How will you use this method? If there are, explain the Challenges for this method?),
  - Give information about data collection and data analysis processes,
  - Explain preliminary findings of your work,
  - Make a discussion based on your key findings,
  - Conclude the work by highlighting study's limitations, contribution of the work and the future studies.
- Plagiarism control will be done for the submitted papers. Papers with high similarity ratio (higher than %20) will not be considered for evaluation.
   Along with submitting your research paper (article), students should also submit their similarity check report.
- Use the INS5004 FullPaper template.