
Daily Lesson Plan Form

**Ahvaz Jundishapur University of Medical Sciences – Educational Deputy
Center for Medical Education Studies and Development**

Course Title: Research Methods

Credit Hours: 3

Educational Domain: Workshop

Faculty: Medicine

Target Audience: Medical Students

Lesson Topic: Research Methods

Prepared by: Dr. Fereshteh Javanmardi

General Objective

Students will learn how to identify the causes of a research problem and how to formulate a clear problem statement.

Behavioral Objectives

By the end of this session, the student will be able to:

- Explain methods for identifying the causes of a research problem
 - Formulate a clear and structured problem statement
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Teaching Plan

| Learning Outcome | Domain | Teaching Method | Student Activities | Teaching Tools | Time (min) | Evaluation / Complementary Activities |
|---|---------------|-------------------------------|---------------------------|-----------------------|-------------------|--|
| Methods for identifying the causes of a problem | Cognitive | Lecture, interactive workshop | Active participation | Slides | 20 | Class activity, participation |

| Learning Outcome | Domain | Teaching Method | Student Activities | Teaching Tools | Time (min) | Evaluation / Complementary Activities |
|--|---------------|-------------------------------|---------------------------|-----------------------|-------------------|--|
| Formulating a research problem statement | Cognitive | Lecture, interactive workshop | Active participation | Slides | 30 | Class activity, participation |

References

- (Add relevant textbooks or sources here)
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Daily Lesson Plan Form

**Ahvaz Jundishapur University of Medical Sciences – Educational Deputy
Center for Medical Education Studies and Development**

Course Title: Research Methods

Credit Hours: 2

Educational Domain: Workshop

Faculty: Medicine

Target Audience: Medical Students

Lesson Topic: Research Methods

Prepared by: Dr. Fereshteh Javanmardi

General Objective

Students will become familiar with searching reputable scientific sources and understanding various types of scientific articles.

Behavioral Objectives

By the end of this session, the student will be able to:

- Become familiar with searching in credible scientific databases

- Understand different types of scientific articles
- Conduct literature reviews effectively
- Understand the concept and use of MeSH (Medical Subject Headings)

Teaching Plan

| Learning Outcome | Domain | Teaching Method | Student Activities | Teaching Tools | Time (min) | Evaluation / Complementary Activities |
|--|-----------|-------------------------------|---------------------------|----------------|------------|---------------------------------------|
| Familiarity with searching in reputable scientific sources | Cognitive | Lecture, interactive workshop | Interactive participation | Slides | 15 | Class activity, participation |
| Understanding types of scientific articles | Cognitive | Lecture, interactive workshop | Interactive participation | Slides | 15 | Class activity, participation |
| Conducting literature review | Cognitive | Lecture, interactive workshop | Interactive participation | Slides | 15 | Class activity, participation |
| Understanding MeSH (Medical Subject Headings) | Cognitive | Lecture, interactive workshop | Interactive participation | Slides | 10 | Class activity, participation |

References

- (Add relevant textbooks, databases, or journal articles here)

Daily Lesson Plan Form

**Ahvaz Jundishapur University of Medical Sciences – Educational Deputy
Center for Medical Education Studies and Development**

Course Title: Research Methods and Evidence-Based Medicine

Session Number: 1

Credit Hours: 1

Academic Term: 1404–1405

Educational Domain: Workshop

Lesson Topic: Formulating a Research Question and Writing a Title

Faculty: Medicine

Target Audience: Medical Students – Internship Phase

Prepared by: Dr. Sara Ayazian Mavi

General Objective

Students will learn methods for formulating research questions and writing appropriate research titles.

Behavioral Objectives

By the end of this session, the student will be able to:

- Define the framework of a research proposal
 - Explain different methods of formulating a research question
 - Define criteria for selecting an appropriate research title
 - Explain key points in writing a correct title
 - Write a suitable title corresponding to the research question
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Teaching Plan

| Learning Outcome | Domain | Teaching Method | Student Activities | Teaching Tools | Time (min) | Evaluation / Complementary Activities |
|--|---------------------|--------------------------|---------------------|-----------------------|------------|---|
| Define the framework of a research proposal | Cognitive–Affective | Lecture, discussion, Q&A | Lecture, discussion | Projector, whiteboard | 20 | Class activity, completed proposal, and final grade |
| Explain different methods of formulating a research question | Cognitive–Affective | Lecture, discussion, Q&A | Lecture, discussion | Projector, whiteboard | 30 | Class activity, completed proposal, and final grade |
| Define criteria for selecting an appropriate research title | Cognitive–Affective | Lecture, discussion, Q&A | Lecture, discussion | Projector, whiteboard | 20 | Class activity, completed proposal, and final grade |
| Explain key points in writing a correct title | Cognitive–Affective | Lecture, discussion, Q&A | Lecture, discussion | Projector, whiteboard | 15 | Class activity, completed proposal, and final grade |

| Learning Outcome | Domain | Teaching Method | Student Activities | Teaching Tools | Time (min) | Evaluation / Complementary Activities |
|---|---------------------|--------------------------|---------------------------|-----------------------|-------------------|---|
| Write a suitable title corresponding to the research question | Cognitive–Affective | Lecture, discussion, Q&A | Lecture, discussion | Projector, whiteboard | 15 | Class activity, completed proposal, and final grade |

References

- “Research Methods” by Ozanullah Azargashb & Dr. Latif Gachkar
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Daily Lesson Plan Form

**Ahvaz Jundishapur University of Medical Sciences – Educational Deputy
Center for Medical Education Studies and Development**

Course Title: Research Methods and Evidence-Based Medicine

Session Number: 4

Credit Hours: 1

Educational Domain: Workshop

Faculty: Medicine

Target Audience: Medical Students (Internship Phase)

Lesson Topic: Objectives, Hypotheses, Research Questions, and Variables

Prepared by: Dr. Sara Ayazian Mavi

General Objective

Students will learn how to formulate research objectives, hypotheses, research questions, and variables for a research proposal.

Behavioral Objectives

By the end of this session, the student will be able to:

- Explain the types of general, specific, and practical objectives
- Formulate research questions based on descriptive objectives
- Develop research hypotheses based on analytical objectives
- Describe different types of variables
- Complete the variable table for a research proposal

Teaching Plan

| Learning Outcome | Domain | Teaching Method | Student Activities | Teaching Tools | Time (min) | Evaluation / Complementary Activities |
|--|---------------------|--------------------------|---------------------|--------------------------|------------|---|
| Explain the types of general, specific, and practical objectives | Cognitive–Affective | Lecture, Discussion, Q&A | Lecture, Discussion | Projector and Whiteboard | 20 | Class activity, completed proposal, final grade |
| Formulate research questions based on descriptive objectives | Cognitive–Affective | Lecture, Discussion, Q&A | Lecture, Discussion | Projector and Whiteboard | 20 | Class activity, completed proposal, final grade |
| Develop research hypotheses based on analytical objectives | Cognitive–Affective | Lecture, Discussion, Q&A | Lecture, Discussion | Projector and Whiteboard | 20 | Class activity, completed proposal, final grade |
| Describe different types of variables | Cognitive–Affective | Lecture, Discussion, Q&A | Lecture, Discussion | Projector and Whiteboard | 25 | Class activity, completed proposal, final grade |
| Complete the variable table for a research proposal | Cognitive–Affective | Lecture, Discussion, Q&A | Lecture, Discussion | Projector and Whiteboard | 15 | Class activity, completed proposal, final grade |

References

- Azar Ghasb, O. & Gachkar, L., *Research Methods*, Tehran, 2020
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Syllabus – Research Methods and Evidence-Based Medicine

School: School of Medicine, Ahvaz Jundishapur University of Medical Sciences

Course Code: 126

Academic Year: 1404–1405

Credits: 1

Course Duration: One semester

Prerequisites: Principles of Epidemiology, Biostatistics

Instructors: Dr. Sara Ayazian, Dr. Fereshteh Javanmardi

Class Schedule: Saturday & Wednesday, 14:00–16:00

Instructor Email: Ayazian-s@ajums.ac.ir

Course Overview

This course introduces medical interns to scientific research principles, evidence-based medicine (EBM), article searching, and critical appraisal of scientific literature. Students will also learn how to write research proposals and apply research ethics in practice.

Course Objectives

General Objectives:

By the end of this course, students will be able to:

- Conduct research according to scientific principles.
- Search and critically appraise scientific articles.
- Understand and apply evidence-based medicine in clinical practice.
- Complete a research proposal following standard guidelines.

Specific Objectives:

Students will be able to:

- Describe the framework of a research proposal.
- Develop a complete research proposal.
- Search electronic health databases efficiently.
- Explain the structure and format of a scientific article.
- Formulate clinical and other health-related questions into searchable queries.
- Critically appraise articles for methodology and statistical validity.
- Apply ethical principles in research.

Course Content and Schedule

| Week/Date | Topics | Teaching Method | Student Activities | Instructor |
|---------------|---|--------------------------|----------------------------|----------------|
| 1 (5/7/1404) | Research question formulation & writing a title | Lecture, Discussion, Q&A | Active group participation | Dr. Ayazian |
| 2 (9/7/1404) | Research question formulation & writing a title | Lecture, Discussion, Q&A | Active group participation | Dr. Ayazian |
| 3 (12/7/1404) | Introduction to literature search, types of articles, MeSH | Lecture, Discussion, Q&A | Active group participation | Dr. Javanmardi |
| 4 (16/7/1404) | Literature search, article types, MeSH | Lecture, Discussion, Q&A | Active group participation | Dr. Javanmardi |
| 5 (19/7/1404) | Problem identification and statement of the problem | Lecture, Discussion, Q&A | Active group participation | Dr. Javanmardi |
| 6 (23/7/1404) | Problem identification and statement of the problem | Lecture, Discussion, Q&A | Active group participation | Dr. Javanmardi |
| 7 (26/7/1404) | Writing objectives, hypotheses, research questions, and variable tables | Lecture, Discussion, Q&A | Active group participation | Dr. Ayazian |
| 8 (30/7/1404) | Writing objectives, hypotheses, research questions, and variable tables | Lecture, Discussion, Q&A | Active group participation | Dr. Ayazian |
| 9 (3/8/1404) | Types of studies | Lecture, Discussion, Q&A | Active group participation | Dr. Ayazian |

| Week/Date | Topics | Teaching Method | Student Activities | Instructor |
|-------------------|---|--------------------------------|----------------------------|-------------------|
| 10 (7/8/1404) | Types of studies | Lecture, Discussion, Q&A | Active group participation | Dr. Ayazian |
| 11 (10/8/1404) | Sample size calculation, sampling methods, study procedures, and ethics | Lecture, Discussion, Q&A | Active group participation | Dr. Ayazian |
| 12 (14/8/1404) | Sample size, sampling, study procedures, and ethics | Lecture, Discussion, Q&A | Active group participation | Dr. Ayazian |
| 13 (17/8/1404) | Evidence-Based Medicine (EBM): Types of evidence, Cochrane Database | Lecture, Discussion, Q&A | Active group participation | Dr. Javanmardi |
| 14 (21/8/1404) | Evidence-Based Medicine, Cochrane Database | Lecture, Discussion, Q&A | Active group participation | Dr. Javanmardi |
| 15 (24/8/1404) | EBM: Critical appraisal of RCT methodology & results | Lecture, Discussion, Q&A | Active group participation | Dr. Ayazian |
| 16 (28/8/1404) | EBM: Critical appraisal of RCT methodology & results | Lecture, Discussion, Q&A | Active group participation | Dr. Ayazian |
| 17 (1/9/1404) | EBM: Using evidence in clinical decision-making | Lecture, Discussion, Q&A | Active group participation | Dr. Javanmardi |
| 18 (5/9/1404) | EBM: Using evidence in clinical decision-making | Lecture, Discussion, Q&A | Active group participation | Dr. Javanmardi |

Assignments

- Formulate a research question
- Complete a research proposal
- Critically appraise a treatment article
- Participate in final written exam

Assessment

- Assignments: 25%

- Final Exam: 75%
 - Exam Date: Wednesday, 30/8/1404, 13:00
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Textbook & References

- Azargashb, O. & Gachkar, L., *Research Methods*
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Course Identification and Course Unit Schedule

Student Form

Course Title: Research Methods and Evidence-Based Medicine

Field and Level of Study: Medicine – Internship

Faculty: Medicine

Course Code: 126

Academic Year: 1404–1405

Prerequisites: Principles of Epidemiology, Biostatistics

Number of Credits: 1

Rotation Duration: One semester

Credit Allocation: 7 hours theory, 19 hours practical (total 26 hours)

Instructors:

Dr. Sara Ayazian

Dr. Fereshteh Javanmardi

Class Days and Time: Saturday & Wednesday, 14:00–16:00

Course Coordinator: Dr. Sara Ayazian

Email: Ayazian-s@ajums.ac.ir

Office Hours: All weekdays

General Course Objectives

In this course, students learn:

- How to conduct research based on scientific principles
- Searching for scientific articles and using evidence-based medicine methods

- Critical appraisal of medical evidence
- Fundamentals and workflow of a research project
- How to complete a research proposal

Specific Objectives

By the end of the course, the student will be able to:

- Describe the framework of a research proposal
- Prepare a full research proposal with all stages
- Conduct electronic health literature searches
- Describe the general structure and writing style of a scientific article
- Explain the importance and role of evidence-based medicine
- Convert clinical and other health-related questions into searchable, well-formulated questions
- Conduct evidence searches based on formulated questions
- Critically appraise medical articles regarding methodology and statistics
- Understand research ethics and apply them in practice

Course Description

This course teaches students the proper methods for scientific research, searching and appraising articles, and evidence-based medicine techniques.

Course Schedule

| Day | Date | Topics (Expected Teaching Concepts) | Student Activities | Teaching Method | Instructor |
|-----------|-----------|--|--|-----------------|----------------|
| Saturday | 5/7/1404 | Formulating a research question and writing a project title | Active participation in group discussion | PowerPoint, Q&A | Dr. Ayazian |
| Wednesday | 9/7/1404 | Formulating a research question and writing a project title | Active participation in group discussion | PowerPoint, Q&A | Dr. Ayazian |
| Saturday | 12/7/1404 | Searching reputable scientific sources, types of articles, literature review, MeSH | Active participation in group discussion | PowerPoint, Q&A | Dr. Javanmardi |

| Day | Date | Topics (Expected Teaching Concepts) | Student Activities | Teaching Method | Instructor |
|------------|-------------|--|--|------------------------|-------------------|
| Wednesday | 16/7/1404 | Searching reputable scientific sources, types of articles, literature review, MeSH | Active participation in group discussion | PowerPoint, Q&A | Dr. Javanmardi |
| Saturday | 19/7/1404 | Causal methods for a research problem and writing the problem statement | Active participation in group discussion | PowerPoint, Q&A | Dr. Javanmardi |
| Wednesday | 23/7/1404 | Causal methods for a research problem and writing the problem statement | Active participation in group discussion | PowerPoint, Q&A | Dr. Javanmardi |
| Saturday | 26/7/1404 | Writing objectives, hypotheses, research questions, and setting up a variables table | Active participation in group discussion | PowerPoint, Q&A | Dr. Ayazian |
| Wednesday | 30/7/1404 | Writing objectives, hypotheses, research questions, and setting up a variables table | Active participation in group discussion | PowerPoint, Q&A | Dr. Ayazian |
| Saturday | 3/8/1404 | Introduction to study designs | Active participation in group discussion | PowerPoint, Q&A | Dr. Ayazian |
| Wednesday | 7/8/1404 | Introduction to study designs | Active participation in group discussion | PowerPoint, Q&A | Dr. Ayazian |
| Saturday | 10/8/1404 | Sample size calculation, sampling methods, procedures, and ethical considerations | Active participation in group discussion | PowerPoint, Q&A | Dr. Ayazian |
| Wednesday | 14/8/1404 | Sample size calculation, sampling methods, procedures, and ethical considerations | Active participation in group discussion | PowerPoint, Q&A | Dr. Ayazian |
| Saturday | 17/8/1404 | Evidence-based medicine: types of evidence, Cochrane Database | Active participation in group discussion | PowerPoint, Q&A | Dr. Javanmardi |
| Wednesday | 21/8/1404 | Evidence-based medicine: types of evidence, Cochrane Database | Active participation in group discussion | PowerPoint, Q&A | Dr. Javanmardi |

| Day | Date | Topics (Expected Teaching Concepts) | Student Activities | Teaching Method | Instructor |
|-----------|-----------|--|--|-----------------|----------------|
| Saturday | 24/8/1404 | Evidence-based medicine: Critique of methodology and results of an RCT study | Active participation in group discussion | PowerPoint, Q&A | Dr. Ayazian |
| Wednesday | 28/8/1404 | Evidence-based medicine: Critique of methodology and results of an RCT study | Active participation in group discussion | PowerPoint, Q&A | Dr. Ayazian |
| Saturday | 1/9/1404 | Evidence-based medicine: How to use evidence results in clinical decision-making | Active participation in group discussion | PowerPoint, Q&A | Dr. Javanmardi |
| Wednesday | 5/9/1404 | Evidence-based medicine: How to use evidence results in clinical decision-making | Active participation in group discussion | PowerPoint, Q&A | Dr. Javanmardi |

Student Assignments

- Formulate a research question
- Complete a research proposal form
- Critically appraise a therapeutic article
- Participate in the final written examination

Course Evaluation Method

- Assignment Score: 25%
 - Final Exam: 75%
- Exam Date:** Wednesday, 30/8/1403, 13:00

Main References (Approved by Ministry of Health)

- Research Methods, Ozanallah Azargashb & Dr. Latif Gachkar

Daily Lesson Plan Form

Ahvaz Jundishapur University of Medical Sciences – Educational Deputy
Center for Medical Education Studies and Development

Educational Domain: —

Academic Term: —

Credit Hours: 1

Course Title: Research Methods

Lesson Topic: Evidence-Based Medicine

Faculty: Medicine

Target Audience: Medical Students

Prepared by: Dr. Fereshteh Javanmardi

General Objective

Students will learn the principles and practice of evidence-based medicine.

Behavioral Objectives

By the end of the lesson, the student will be able to:

- Define evidence-based medicine
 - Describe the Cochrane Database and its applications
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Teaching Plan

| Time (min) | Teaching Tools | Student Activities | Teaching Method | Domain | Learning Outcome |
|------------|----------------|----------------------|-----------------|-----------|----------------------------------|
| 45 | Slides | Interactive workshop | Lecture | Cognitive | What is evidence-based medicine? |
| 15 | Slides | Interactive workshop | Lecture | Cognitive | Cochrane Database |

Evaluation – Complementary Activities

- Class participation
 - Engagement in workshop activities
-

References

— (not specified in original form)

Daily Lesson Plan Form

**Ahvaz Jundishapur University of Medical Sciences – Educational Deputy
Center for Medical Education Studies and Development**

Educational Domain: —

Academic Term: —

Credit Hours: 3

Course Title: Research Methods

Lesson Topic: Evidence-Based Medicine Review

Faculty: Medicine

Target Audience: Medical Students

Prepared by: Dr. Fereshteh Javanmardi

General Objective

Students will learn to review and critically analyze evidence-based medicine articles.

Behavioral Objectives

By the end of the lesson, the student will be able to:

- Review evidence-based medicine articles

Teaching Plan

| Time (min) | Teaching Tools | Student Activities | Teaching Method | Domain | Learning Outcome |
|-------------------|-----------------------|---------------------------|------------------------|---------------|-----------------------------------|
| 45 | Slides | Interactive workshop | Lecture | Cognitive | Review of evidence-based articles |

Evaluation – Complementary Activities

- Participation in workshop activities
 - Class engagement
-

References

— (not specified in original form)
