

CHEM 6980 - Introduction to Chemical Research

Fall 2026 Syllabus, Section 01, CRN 40026,

Credit hours: 3

Instructor

Dr. Nina V. Stourman

Professional Qualifications:

Ph. D., Bioorganic Chemistry and Chemistry of Natural Physiologically Active Compounds, Moscow State University, Russia
BS/MS Chemistry, Moscow State University, Russia

Professor

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Communication Expectations:

expect to receive a reply to your email question(s) within 24 hours, Monday through Friday, or within 48 hours during the weekends.

How to Refer to me:

Dr. Stourman

Public Instructor Information

Instructor Title: Professor

Instructor Professional Qualifications: Ph. D., Bioorganic Chemistry and Chemistry of Natural Physiologically Active Compounds, Moscow State University, Russia

Instructor Office Location: WBH 6027

Instructor Office Phone: 330-941-7112

Course Description

6980. Introduction to Chemical Research. Principles of chemical research planning, design, execution, and reporting. Includes research proposals, record keeping, written reports, oral presentations, the reviewing process, and professional standards. The application of the principles of chemical research to the student's M.S. research project. Required of all first-year students in the M.S. program in chemistry. 3 s.h.

Course Readings

Group	Title	Author	ISBN
	No textbook		

There is no prescribed textbook. Students will read multiple scientific papers, selected by the instructor or by students themselves based on their chosen topics. The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

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Schedule of Topics and Assignments

Day	Date	Proposed Topic	Due/To Prepare for Class
Mon	8/24	Introduction. What is Research?	
Wed	8/26	Reading a Scientific Paper	

Mon	8/31	The Literature Search; Citation	
Wed	9/2	Scientific Writing (Writing a paper)	
Mon	9/7		
Wed	9/9	Paper 1 – class discussion	Read the assigned paper, prepare to discuss
Mon	9/14	Scientific Writing (Writing a review)	
Wed	9/16	Paper 2 – class discussion	Read the assigned paper, prepare to discuss
Mon	9/21	Top ten technologies for 2025	Presentations
Wed	9/23	Top ten technologies for 2025	Presentations Research topic and list of five articles for review
Mon	9/28	Ethical Standards in Research	
Wed	9/30	Scientific Writing (The Research Proposal)	Literature review (draft)
Mon	10/5	The Research Problem	
Wed	10/7	Short Presentations of Proposal idea and specific aims	
Mon	10/12	Short Presentations of Proposal idea and specific aims	Literature review (final)
Wed	10/14	Keeping Research Records	Research proposal idea and two specific aims for proposal
Mon	10/19	Methods vs Methodology	
Wed	10/21	Research Design	
Mon	10/26	Presentations of Experimental Design	
Wed	10/28	Presentations of Experimental Design	
Mon	11/2	Presentations of Experimental Design	
Wed	11/4	Making Effective Oral Presentations	Experimental design for proposal
Mon	11/9	Oral Presentations of Proposals	
Wed	11/11		
Mon	11/16	Oral Presentations of Proposals	Written proposal (draft)
Wed	11/18	Oral Presentations of Proposals	
Mon	11/23	Oral Presentations of Proposals	
Wed	11/25		
Mon	11/30	Many Aspects of Chemistry Research	Written proposal (final)
Wed	12/2	ACS Gen Chem Test 6:30-8:30 pm	
Mon	12/7		
Wed	12/9		

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