

# Inorganic Chemistry Graduate Certificate

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The graduate Certificate in Inorganic Chemistry is a 12-credit-hour program. It provides skills and training necessary to advance in the area of inorganic chemistry, which deals with the properties and behavior of inorganic compounds, which include metals, semiconductors, minerals, and organometallic compounds. Inorganic compounds are used as catalysts, pigments, coatings, surfactants, medicines, battery components, fuels, and more. The certificate requires three inorganic chemistry lecture courses (each three credits) and one elective course (three credits) or three credits of research. All students must take these three required courses and one elective course (or research credit), subject to the graduate school regulations.

A minimum of three courses must be taken at UMSL. If research credit will be applied toward the certificate, it must be taken at UMSL. Courses may be substituted with the permission of the certificate coordinator. For more information, students can contact the Department of Chemistry and Biochemistry.

Certificate applicants must meet the general University of Missouri-St. Louis Graduate School admissions requirements to be admitted to the Certificate program. Students admitted to the Chemistry M.S. program are automatically eligible to pursue the Certificate; however, they must apply separately to the Certificate program. Students must maintain a minimum GPA of 3.0 to remain in the Certificate program. The certificate is awarded after completion of the 12 credit hours of courses listed below. Students must apply to be awarded the Certificate. Courses taken while enrolled as an undergraduate may not be repeated nor will they count towards the Certificate.

This 12-credit-hour certificate program also counts toward the 30-credit-hour Master of Science in Chemistry degree program requirements. Students may choose to combine this Certificate with other courses and/or Certificates to obtain the Master of Science in Chemistry degree.

## Required Courses

CHEM 5412	Advanced Graduate Inorganic Chemistry	3
CHEM 5422	Coordination Chemistry	3
CHEM 5462	Organometallic Chemistry of the Transition Elements	3

## Elective Courses 3

Choose one of the following:

CHEM 5494	Special Topics in Inorganic Chemistry
CHEM 6905	Graduate Research in Chemistry <sup>1</sup>

1

If CHEM 6905 is chosen, the research project must be in inorganic chemistry.

**Learning outcomes:** Upon completion of the Certificate, students will have an in-depth knowledge of inorganic elements, how these materials can be modified, separated, and used and how they can be spectroscopically analyzed.