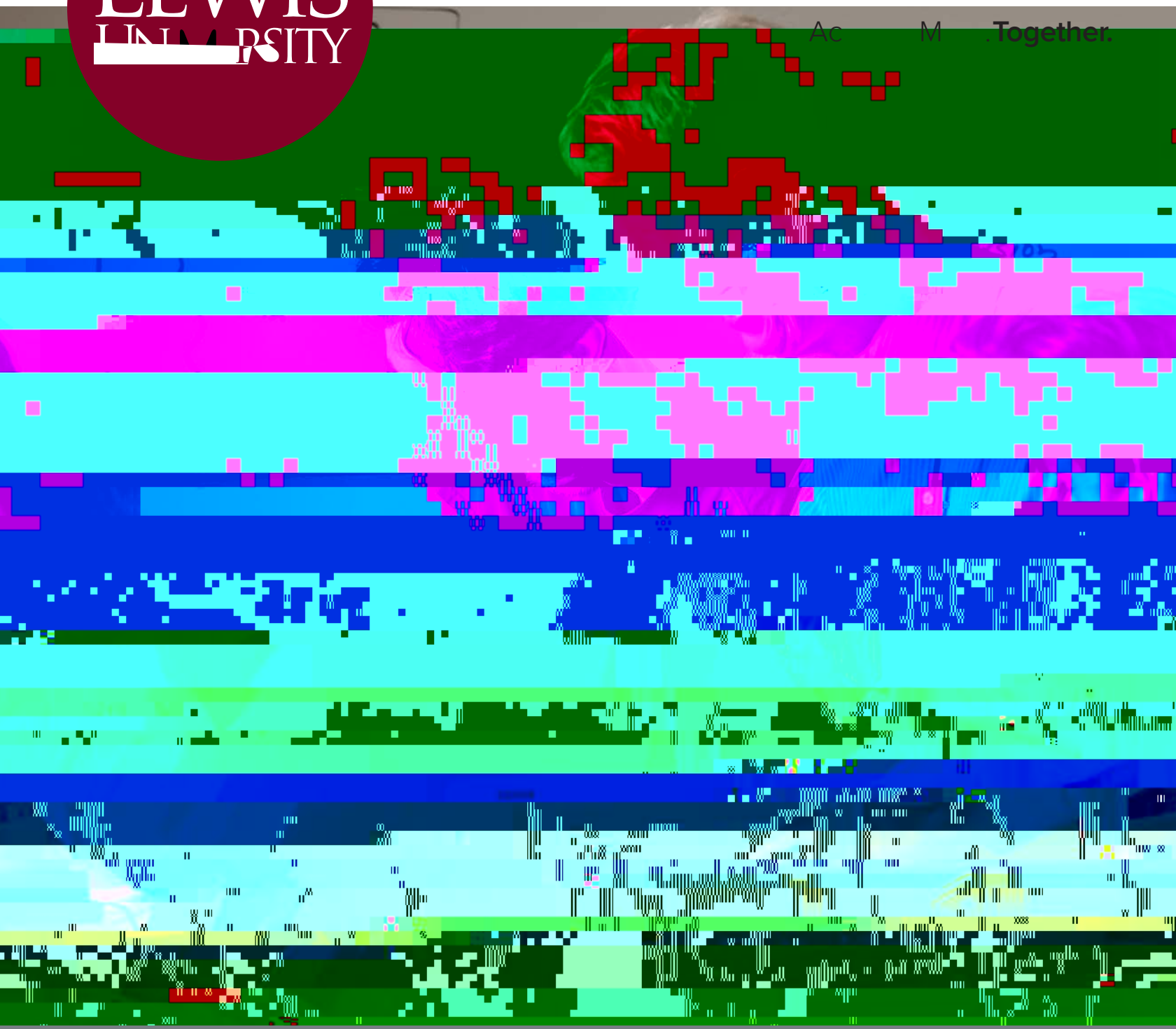


Academics | Mission | Together.



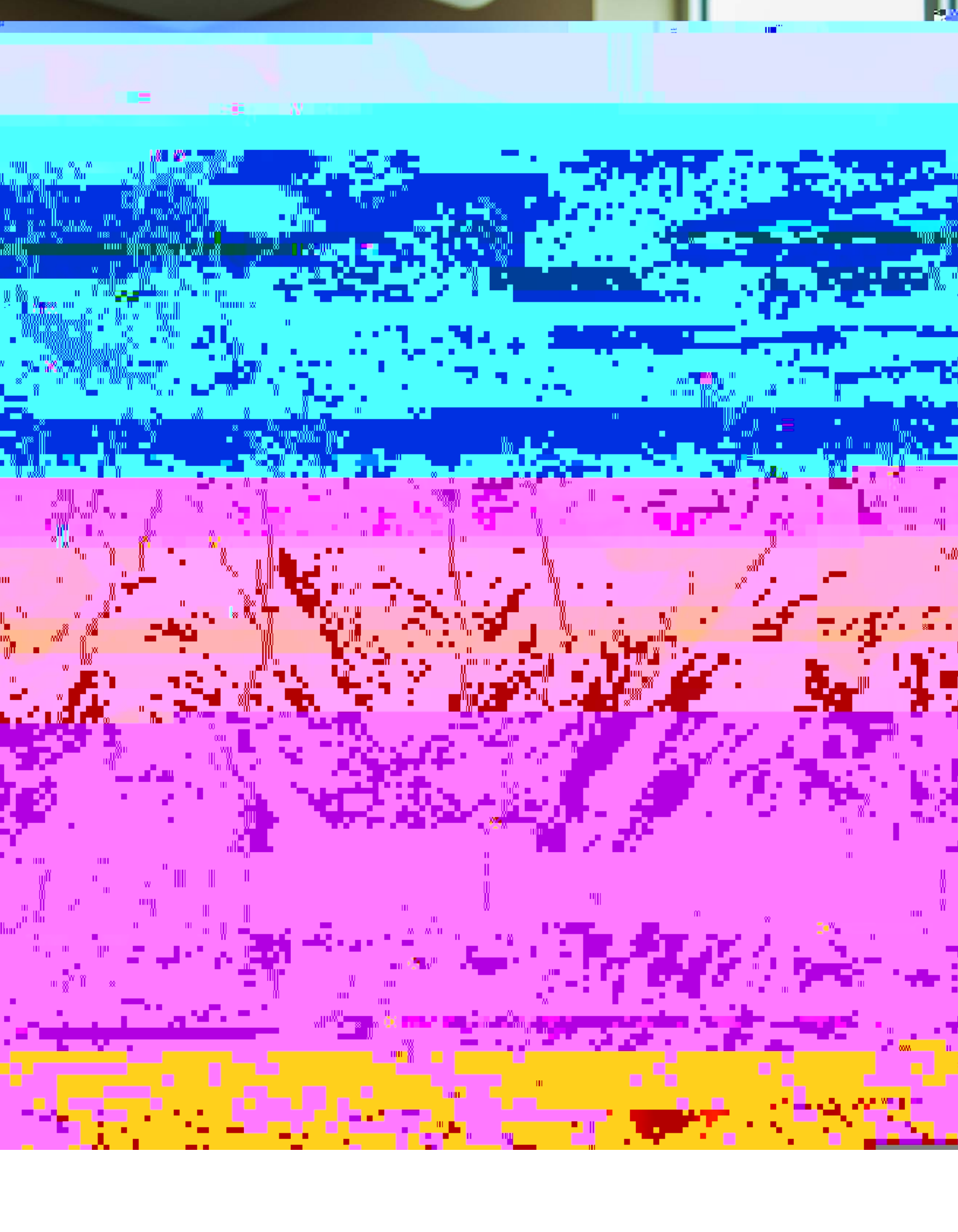
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# MASTER OF SCIENCE IN

# C m

## Acquire the skills to solve real-world problems through the research and testing of chemical compositions.

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Cleaning up our water supply. Devising new window coatings to protect airplane pilots from being blinded by lasers. Molding the minds of the next generation.

ese are just a few examples of how you can impact the world with an advanced degree in Chemistry. What's more, you have the potential to take a leadership role in these types of projects, as chemists with advanced degrees are expected to enjoy increased opportunities and fill upper-level positions. As a graduate student at Lewis University, you'll gain first-hand experience on cutting-edge assignments that will prepare you for these kinds of positions. at's because you'll work hand-in-hand with faculty to acquire a solid understanding of:

- Solving problems in the synthesis, measurement and modeling of chemical systems
- The reasoning process in chemical science
- Specific chemical systems to understand a broad range of complex systems of scientific and societal interest
- The scientific method to design, carry out, record and analyze the results of experiments

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## Degree Requirements

Department of **Chemistry (M.S.)**  
 Total Credits: **30**

### I. CORE COURSES (15 CREDIT HOURS)

|            |                                  |
|------------|----------------------------------|
| CHEM-50100 | Chemical Thermodynamics          |
| CHEM-50200 | Strategic Organic Chemistry      |
| CHEM-52000 | Advanced Analytical Chemistry    |
| CHEM-60100 | Kinetics and Reaction Mechanisms |
| CHEM-60500 | Applied Spectroscopy             |

### II. SKILLS AND RESEARCH (9 CREDIT HOURS)

|            |   |
|------------|---|
| CHEM-59600 | Introduction to Research  |
| CHEM-69600 | Graduate Seminar<br><i>(Multiple enrollments for a total of 2 credit hours)</i> |
| CHEM-69800 | Master's Thesis<br><i>(Multiple enrollments for a total of 6 credit hours)</i>  |

### III. ELECTIVES (6 CREDIT HOURS)\*

|            |                                |
|------------|--------------------------------|
| CHEM-60000 | Physical Inorganic Chemistry   |
| CHEM-60200 | Advanced Biophysical Chemistry |
| CHEM-62100 | Materials Chemistry            |
| CHEM-62300 | Supramolecular Chemistry       |
| CHEM-65200 | Computational Chemistry        |
| CHEM-68000 | Special Topics in Chemistry    |
| CHEM-68500 | Readings in Chemistry          |

*\*Up to 6 hours of graduate coursework in other related disciplines may be chosen with the approval of your advisor and graduate program director.*

## Admission Requirements

In order to be accepted into this program, you must possess:

- A baccalaureate degree from a regionally accredited institution of higher education.
- A minimum undergraduate GPA of 3.0 on a 4.0 scale.
- A completed application for graduate admission with \$40 application fee.
- A professional resumé.
- Official transcripts from all educational institutions attended.
- Two-page statement of purpose.
- Two recommendation forms or letters.
- Undergraduate coursework in discrete mathematics, programming and algorithms (Students without sufficient coursework will still be considered for admission but may need to complete up to 13 credit hours of foundation courses).
- International students are required to have a TOEFL test score greater than 550 (computer-based 213; Internet-based 79).

*\*Provisional admission may be granted for those who do not meet these requirements*

## Provisional Admission

Under certain circumstances, students who don't meet the GPA requirement for full admission may request to be admitted to the program on a provisional basis. If provisionally admitted, you must complete the first 9 semester hours of graduate study with a GPA of 3.0 or higher. After 9 hours of completed coursework, your application will be reviewed again for full admission.

# MASTER OF SCIENCE IN

# C m c P c

Discover the influence you can have on people's everyday lives by addressing energy needs and other important issues.

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From chemistry to physics. From nanotechnology to materials. A Master of Science in Chemical Physics from Lewis University will allow you to profoundly affect the world by designing materials for energy production and utilization, tackling basic issues in surface interactions or exploring complex issues in biochemistry.

It's because our faculty are experts in their fields, working hand-in-hand with you and sharing their real-world experience. At the same time, they utilize an interdisciplinary approach, exposing you to a variety of projects and ideas so you'll have the potential to enjoy the greater opportunities an advanced degree affords and take on a leadership role in your career. You will:

- Demonstrate an understanding of the fundamental scientific principles and apply acquired knowledge of physical and chemical properties
- Apply acquired knowledge to the development of new materials, new theories and effects and devices
- Present scientific data in research publications, articles, posters and oral presentations

James Hofmann '17, Chemical Physics (M.S.)

Teaching Assistant, Lewis Physics Labs

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## Admission Requirements

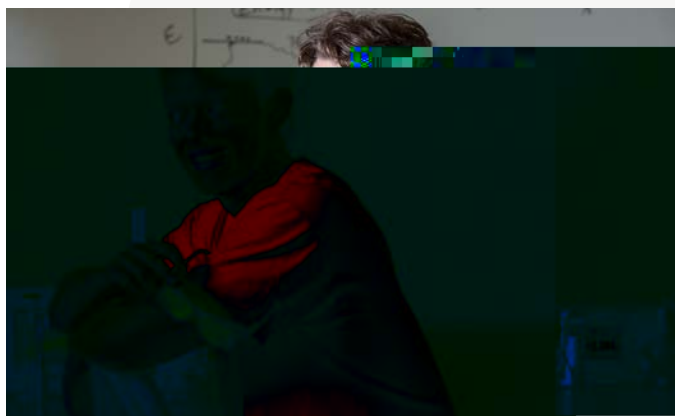
In order to be accepted into this program, you must possess:

- A baccalaureate degree in Chemistry, Physics or Chemical Physics from a regionally accredited institution of higher education or in a major in a related field.
- A minimum undergraduate GPA of 3.0 on a 4.0 scale.
- A completed application for graduate admission with \$40 application fee.
- Official transcripts from all institutions of higher education attended.
- A one- to two-page personal statement describing your background and how this degree will relate to your career goals.
- Three letters of recommendation.

*\*Provisional admission may be granted for those who do not meet these requirements*

## Provisional Admission

Under certain circumstances, students who don't meet the GPA requirement for full admission may request to be admitted to the program on a provisional basis. If provisionally admitted, you must complete the first 9 semester hours of graduate study with a GPA of 3.0 or higher. After 9 hours of completed coursework, your application will be reviewed again for full admission.



## Degree Requirements

Doctor of Philosophy : **Chemical Physics (M.S.)**  
 Total Credit Hours : **30**

### I. CORE COURSES (15 CREDIT HOURS)

|            |                                  |
|------------|----------------------------------|
| CHEM-50100 | Chemical Thermodynamics          |
| CHEM-60100 | Kinetics and Reaction Mechanisms |
| CHEM-60500 | Applied Spectroscopy             |
| PHYS-54100 | Quantum Mechanics                |
| PHYS-54200 | Condensed Matter Physics         |

### II. SKILLS AND RESEARCH (9 CREDIT HOURS)

|            |   |
|------------|---|
| CHEM-59600 | Introduction to Research<br>OR  |
| PHYS-59600 | Introduction to Research  |
| CHEM-69600 | Graduate Seminar<br><i>(Multiple enrollments for a total of 2 credit hours)</i><br>OR |
| PHYS-69600 | Graduate Seminar<br><i>(Multiple enrollments for a total of 2 credit hours)</i>       |
| CHEM-69800 | Master's Thesis<br><i>(Multiple enrollments for a total of 6 credit hours)</i><br>OR  |
| PHYS-69800 | Master's Thesis<br><i>(Multiple enrollments for a total of 6 credit hours)</i>        |

### III. ELECTIVES (6 CREDIT HOURS)\*

|            |  |
|------------|--|
| CHEM-50200 | Strategic Organic Chemistry                    |
| CHEM-52000 | Advanced Analytical Chemistry                  |
| CHEM-60000 | Physical Inorganic Chemistry                   |
| CHEM-60200 | Advanced Biophysical Chemistry                 |
| CHEM-65200 | Computational Chemistry                        |
| CHEM-62100 | Materials Chemistry                            |
| CHEM-62300 | Supramolecular Chemistry                       |
| CHEM-68000 | Special Topics in Chemistry                    |
| CHEM-68500 | Readings in Chemistry                          |
| PHYS-50600 | Mathematical Methods for the Physical Sciences |
| PHYS-51800 | Applied Modern Optics                          |
| PHYS-64000 | Advanced Quantum Mechanics                     |
| PHYS-64200 | Semiconductor Physics and Devices              |
| PHYS-68000 | Special Topics in Physics                      |
| PHYS-68500 | Readings in Physics                            |

*\*Up to 6 hours of graduate coursework in other related disciplines may be chosen with the approval of your advisor and graduate program director.*

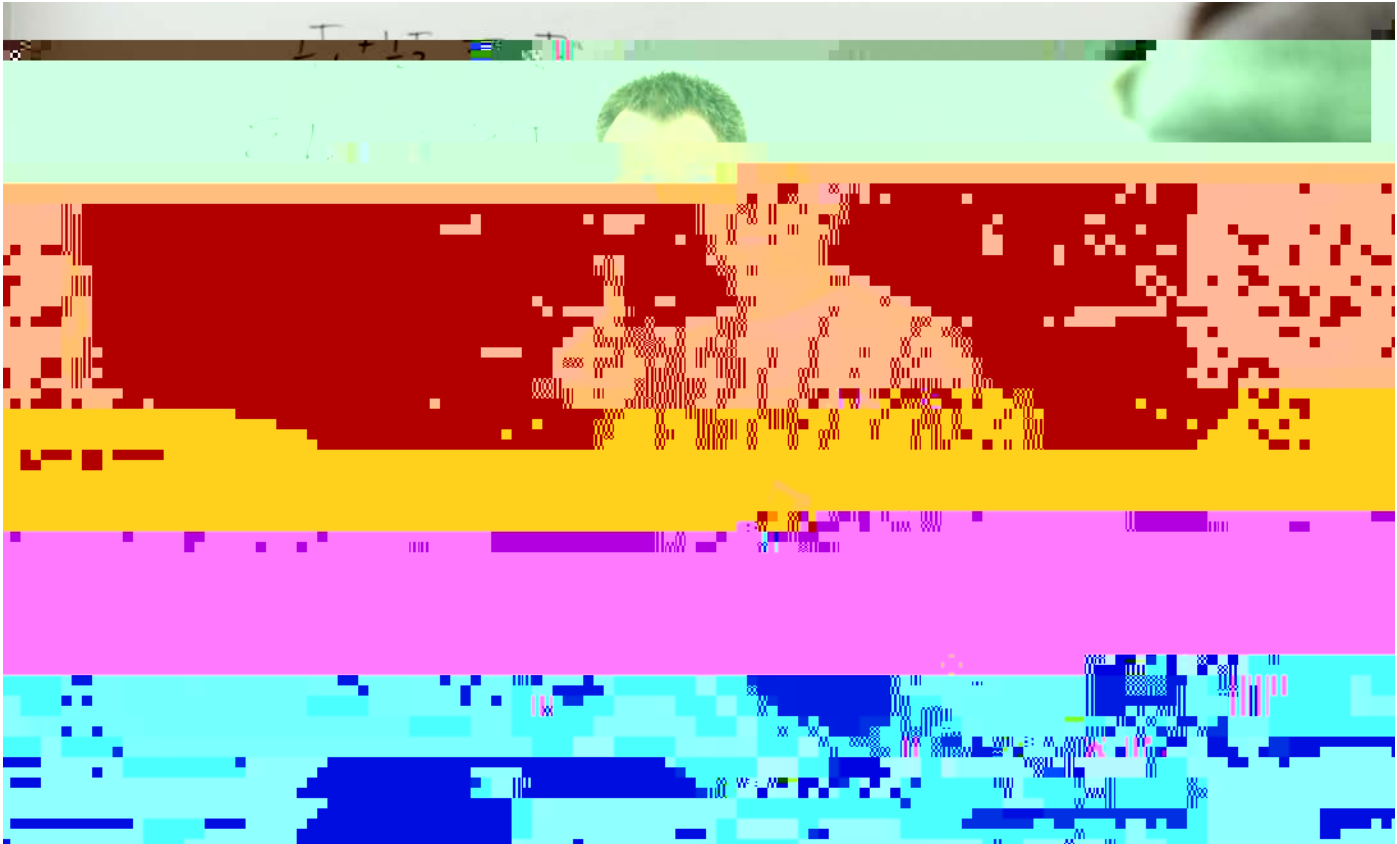
## Life after Lewis

Upon graduation from this program, you can potentially bring your new skills to the following areas:

- Chemist
- Chemical Engineer
- Materials Scientist
- Environmental Scientist
- Teacher

# MASTER OF SCIENCE IN

# P C



Learn how great an effect you can have in advancing engineering, computing and other areas.

l c m c .

From pondering the origins of the universe to designing better electronic memory devices, Lewis University's Master of Science in Physics will give you the skills to impact the world in extraordinary ways. By teaming with faculty who are real-world experts with strong industry connections, you'll gain practical experience working with companies to solve real-world problems. Upon graduation, you'll have the credentials people look for and enjoy increased opportunities, including the potential to take on a position as a research associate or at a teaching institution. You will learn to:

- Demonstrate in-depth knowledge and comprehension of the core concepts of physics
- Exhibit a functional knowledge of all basic areas of physics, including mechanics, electricity and magnetism, thermodynamics and quantum mechanics
- Display quantitative, qualitative and technical skills central to physics
- Conduct scholarly activities in an ethical manner
- Produce and defend a research project



## Degree Requirements

Department : **Physics (M.S.)**  
Total Credit Hours : **30**

### I. CORE COURSES (12 CREDIT HOURS)

|            |   |
|------------|---|
| PHYS-50500 | Classical Mechanics                         |
| PHYS-53000 | Statistical Mechanics and<br>Thermodynamics |
| PHYS-64000 | Advanced Quantum Mechanics                  |

### II. SKILLS AND RESEARCH (9 CREDIT HOURS)

|            |   |
|------------|---|
| PHYS-59600 | Introduction to Research  |
| PHYS-69600 | Graduate Seminar<br><i>(Multiple enrollments for a total of<br/>2 credit hours)</i> |
| PHYS-69800 | Master's Thesis<br><i>(Multiple enrollments for a total of<br/>6 credit hours)</i>  |

### III. ELECTIVES (9 CREDIT HOURS)

|            |   |
|------------|---|
| PHYS-50600 | Mathematical Methods for the Physical<br>Sciences |
| PHYS-51800 | Applied Modern Optics                             |
| PHYS-54100 | Quantum Mechanics                                 |
| PHYS-54200 | Condensed Matter Physics                          |
| PHYS-54300 | Nuclear and Particle Physics                      |
| PHYS-61800 | Advanced Modern Optics                            |
| PHYS-64200 | Semiconductor Physics and Devices                 |
| PHYS-68000 | Special Topics in Physics                         |
| PHYS-68500 | Readings in Physics                               |
| CHEM-68500 | Readings in Chemistry                             |

*\*Up to 9 hours of graduate coursework in other related disciplines may be chosen with the approval of the advisor and graduate program director.*

## Life after Lewis

Upon graduating from the program, you can bring your new skills to the following areas:

- Nuclear Physics
- Geophysics
- Astronomy
- Astrophysics
- Engineering Physics
- Teaching
- Computer Science

## Admission Requirements

- A baccalaureate degree in Physics from a regionally accredited institution of higher education or in a major in a related field.
- A minimum undergraduate GPA of 3.0 on a 4.0 scale.
- A completed application for graduate admission with \$40 application fee.
- Official transcripts from all institutions of higher education attended.
- A one- to two-page personal statement describing your background and how this

# A \_ N !

## Applying to Lewis University is simple:

- Complete the Graduate Application at [lewisu.edu/apply](http://lewisu.edu/apply).
- Submit the necessary transcripts and/or supporting documents listed in the Admission Requirements section of your program of interest.
- Mail the \$40 application fee.

Start taking your career to the next level today!

## Why more graduate students choose Lewis

Take a closer look at Lewis and you'll find we're more than a place to get your next degree. We're a respected, state-of-the-art institution of higher learning that's been recognized by renowned publications.

It's because we employ a values-based, ethically focused approach to education from faculty who are experts in their fields. They understand your need to balance work, family and education and work with you to accomplish your educational goals while providing the support you need. See for yourself:

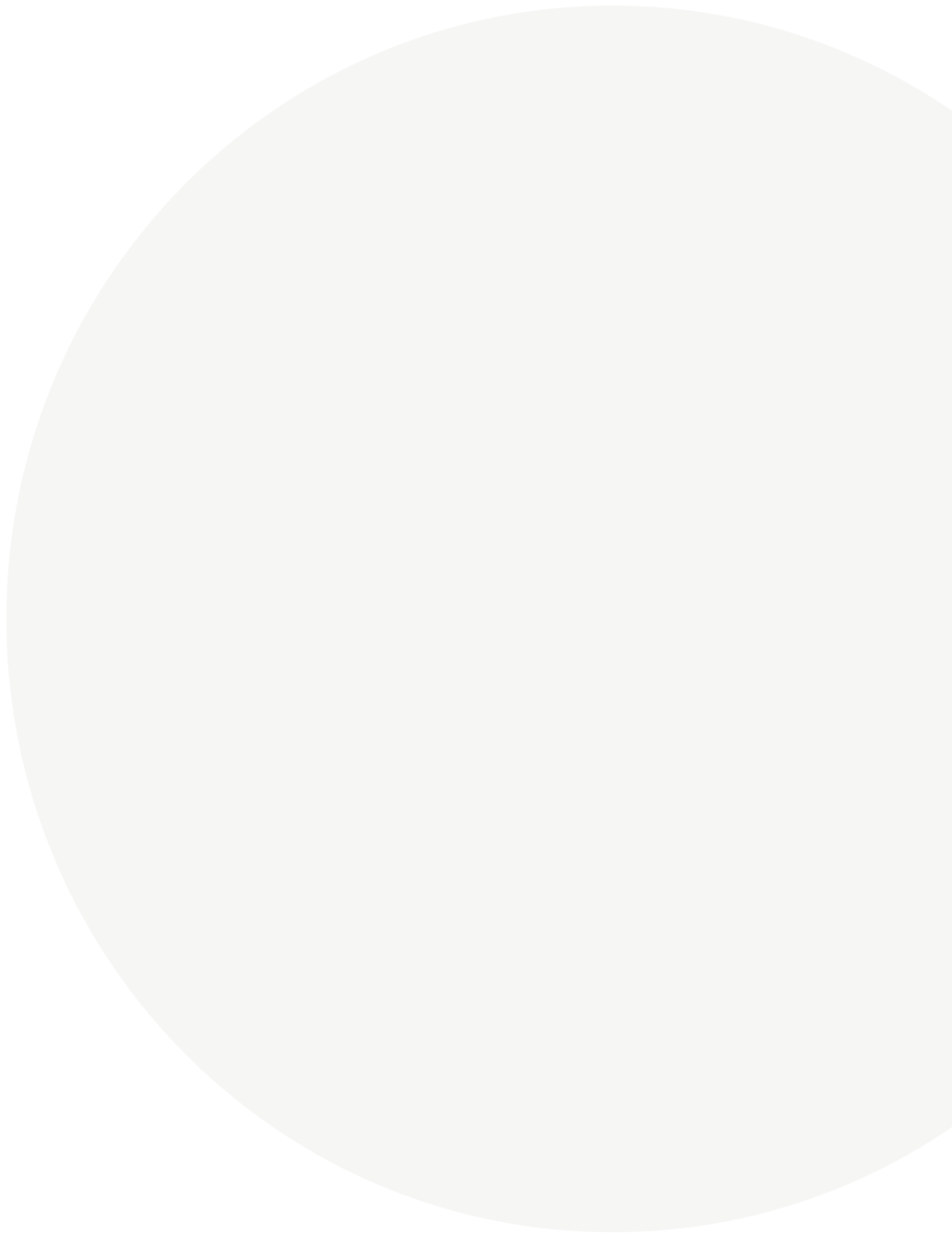
- State-of-the-art laboratory equipment, such as a fluorescent microscope and 96-well plate reader, in a LEED certified science center with more than 31 environmentally friendly features, including its innovative design, indoor environmental quality, solar powered pathway lighting, water efficiency and more
- Utilize work done for your employer as your research project
- Recognized as a Top 25 Regional University in the Midwest by *U.S. News & World Report*
- Named #1 best private college value in Illinois by Great Value Colleges
- Small, interactive classes help you grow with your peers, led by dedicated faculty who are experts in their field with real-world experience
- Employer tuition discount and deferral plans make Lewis one of the most affordable private universities in the Chicago area

## Let us talk with you about funding your education

We're dedicated to making your degree as affordable as possible. That's why Lewis offers transfer-friendly credit policies, employer tuition discounts and tuition deferral plans. You might also qualify for Federal Student Loans, veterans' benefits or scholarships. Put all those pieces together and you'll find that we're one of the most affordable private Universities in the Chicago area. To apply for financial aid:

- Submit your application for admission at [lewisu.edu/apply](http://lewisu.edu/apply).
- Complete the Free Application for Federal Student Aid (FAFSA) at [fafsa.ed.gov](http://fafsa.ed.gov) and use 001707 for Lewis' school code.
- If your FAFSA application is selected for verification, Lewis will request additional documentation (IRS tax transcript, verification of child support, etc.). The IRS Data Retrieval process provides the easiest way to meet these requirements.
- Within two weeks upon acceptance to Lewis and completion of the FAFSA, notification of financial aid eligibility will be mailed to your address on file. Simply follow the steps outlined in the packet.
- If you're awarded financial aid, you must complete the Entrance Counseling and Direct Stafford Loan Promissory Note (MPN) upon receiving your Financial Aid Award Letter.

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2015-2016 Catalog

## For More Information

[grad@eiu.edu](mailto:grad@eiu.edu)

(815) 836-5610

Fax (815) 836-5578