

COLLEGE OF NATURAL AND SOCIAL SCIENCES

PHYSICS AND PHYSICAL SCIENCE

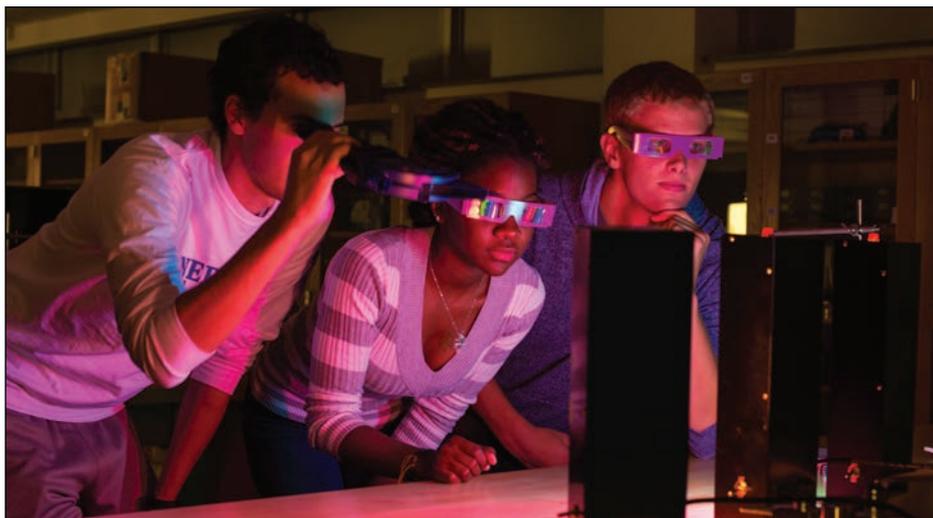


Photo by Lani Jensen Photography

PHYSICS COMPREHENSIVE

Students who enjoy math and are curious about learning what makes a plane fly, a wineglass sing or how to move water without touching it are prime candidates for a physics comprehensive major. At UNK, class sizes are small and allow you to get to know your instructors, ask for help or receive advice in a comfortable atmosphere. Undergraduate physics majors engage in active research with a faculty mentor and often travel to various conferences such as Women in Physics, National Conference on Undergraduate Research, and American Physical Society to present their research to peers.

Physicists are an excellent match for science, engineering and technology jobs because of their breadth of analysis, problem-solving and project-managements skills, and depth of science and math training.

Traits needed for success in physics

- “Eats, lives and breathes” science
- Enjoys math
- Knows fundamental computer skills
- Asks questions
- Uses logical reasoning
- Pays attention to details
- Perseveres
- Solves problems
- Communicates well
- Works independently and collaborates on a team

Modern technology is physics-based. Any technology using light, sound, electricity, magnetism, heat, optics or mechanics comes from physics.

Did you know?

Student-faculty relationships are a hallmark of the UNK experience.

Faculty interact on a personal basis with students as teachers, advisers, mentors and friends both inside and outside the classroom, and from your freshman year to graduation and beyond.

Alumni profile

“In high school I enjoyed math and science and felt that physics would be a good personal challenge,” said Joshua Moravec. “What I liked most about the UNK physics department is I formed very good relationships with professors and staff that allowed meaningful research work.”

The 2013 UNK graduate majored in physics comprehensive, minored in both math and Japanese, and did undergraduate research – all of which he says improved his learning skills.

“Through those experiences I was able to more quickly understand problems and solve them.”

Moravec chose UNK because of the small class size. “I didn’t want to take classes with hundreds of other people.”

Now Moravec is a lead software quality assurance analyst at Phynd Technologies in Kearney, Neb. and handles many responsibilities including managing the quality assurance process, which includes creating test plans, test cases and task estimations.



JOSHUA MORAVEC

Reasons to study physics at UNK

- Faculty members in the physics department love making science comprehensible to students.
- Undergraduates are encouraged to work with a faculty member in “hands-on training” doing research.
- Learning physics challenges imaginations and can lead to great discoveries that impact the world.

PHYSICS COMPREHENSIVE Bachelor of Science

FOUR YEAR CLASS SCHEDULE

The schedule is a guideline for progress toward a degree. Consult with your academic adviser.

<p>Semester 1 (16 credits)</p> <p>PHYS 275/275L General Physics I MATH 115 Calculus I Portal 188 (your choice) General Studies Written Communication</p>	<p>Semester 2 (16 credits)</p> <p>PHYS 276/276L General Physics II MATH 202 General Studies Oral Communication General Studies Democracy</p>
<p>Semester 3 (16 credits)</p> <p>PHYS 323 A&D Electronics PHYS 346 Modern Physics MATH 260 Calculus 3 CHEM 160/160L General Chemistry I</p>	<p>Semester 4 (16 credits)</p> <p>PHYS 410 Math Phys I PHYS 440 Thermo/Stat Mech CSIS 112 Programing C/ Math305 ODE CHEM 161/161L General Chemistry II</p>
<p>Semester 5 (13 credits)</p> <p>PHYS 407 E&M PHYS 430 Optics General Studies Dist Social Science General Studies Dist Aesthetics</p>	<p>Semester 6 (16 credits)</p> <p>PHYS 419 Quantum Mechanics PHYS 420 Advanced Lab Elective General Studies Dist Humanities General Studies Dist Humanities</p>
<p>Semester 7 (14 credits)</p> <p>PHYS 402 Mechanics PHYS 495 Research in Physics PHYS 411 Math Phys II Phys Math CS Elective General Studies Dist Social Science</p>	<p>Semester 8 (13 credits)</p> <p>PHYS 435 Solid State PHYS 498 Senior Seminar Program free elective General Studies free elective Capstone 388 (your choice)</p>



Society of Physics Students

The Society of Physics Students is a professional association open to anyone interested in physics. Within SPS is the national physics honor society, Sigma Pi Sigma, for members who have demonstrated outstanding academic achievement.

- Biweekly meetings
- Community-building events
- Physics conferences
- SPS/Sigma Pi Sigma banquet
- School science fair judging
- High school senior recruiting days
- Movie nights in the UNK planetarium

SCHOLARSHIPS AVAILABLE

- Donald L. Liehs Scholarship Endowment
- Dr. Mary L. Morse Memorial Scholarship
- James W. Nielsen Memorial Scholarship
- Elmer H. and Marian L. Beckman Scholarship

F.Y.I – For your information

High school students thinking about studying physics in college should take as many advanced classes as possible in science and math. This will provide a foundation for college coursework.

UNK physics graduates find employment in industrial settings and government labs, or on college campuses, as well as in other science and technology fields. Unconventional settings include newspapers and magazines, and in government or business – any place where problem-solving and analytical skills are great assets.

**YOU CAN BE PART OF
THE UNK EXPERIENCE**

For more information, contact:

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