



CNSM STEM Academy

Introduction to STEM Academy

To be eligible to apply to the CNSM STEM Academy students must be enrolled in one of the participating school districts who have entered into Dual Enrollment agreements with IUP. <http://www.iup.edu/continuing/dual-enrollment/participating-school-districts/>

To participate in the STEM Academy high school students must have a 3.0 overall GPA, be recommended by their school guidance counselor and submit a letter of recommendation from their science, mathematics or technology teacher.

First time STEM Academy students will apply through the application process facilitated by IUP's Office of Admissions and participate in the required orientation to learn about IUP policies, opportunities on campus and to take placement exams in Math and English. <http://www.iup.edu/continuing/dual-enrollment/>

Students must provide their own transportation to and from IUP.

Tuition and Fees

Students who complete a college course, or the full sequence of courses, in one of the three focus areas will realize significant tuition savings. Tuition is 75 percent off the regular IUP tuition, or \$226.50 for a three-credit course, based on 2016-17 rates.. Participation in CNSM STEM Academy will translate into significant savings on the total cost of a college degree. <http://www.iup.edu/bursar/tuitionfees/dual-enrollment/>

Scholarships

A limited number of program founding scholarships will be available to eligible applicants. These tuition, travel and book scholarships will be awarded based on academic merit to students not eligible for tuition waivers. There is no separate scholarship application and students will be considered for STEM Founding Scholarships based on their completed application materials.

STEM Academy Requirements

CNSM STEM Academy students will be expected to complete 4 on-site courses (Indiana, Northpointe, Punxsutawney campuses) offered by the College of Natural Sciences and Mathematics in one of the three areas of preparation. Students must maintain a 3.0 GPA in STEM courses or receive permission to continue in the Academy.

STEM Academy students will have access to supplemental instruction (tutoring) sessions, faculty and peer mentoring and access to a variety of ancillary activities, such as *Science Inspires Lecture Series*, *Women in Mathematics Science & Technology Program*, *IUP Scholars Program*, or *Research Experiences for Summer Scholars*.

Upon completion of two STEM Academy classes with a 3.0 GPA students will become eligible to apply for participation in independent research projects. CNSM faculty will serve as supervisors of research projects; students will be expected to present results of their work at appropriate professional events. This is an opportunity to prepare for conducting scientific research under the mentorship of a faculty member.

Upon successful completion of a minimum of 12 CNSM STEM Academy credits students will be awarded a *Certificate of Completion*. The completed courses will be put on an IUP transcript, but could be transferred to other colleges or universities.

CNSM STEM Academy Program focus areas:

Health Professions Area

- Biology
- BIOL 104, 106, 105, 113, BIOL 117, BIOL 118, BIOL 119, 150, 155
- Chemistry
- CHEM 101, 102, 105, 111, 112, 113, 114, SCI 107
- Mathematics
- MATH 101, 121, 217
- Physics
- PHYS 101, 111/121, 112/122, 151, SCI 105
- Psychology
- PSYC 101, 310

Cyber and Information Technology Area

- LBST Natural Science courses, with BIOL 106, 107, SCI 107/117, CHEM 105 listed for Criminology majors
- COSC 105, 108, 110
- CRIM 101, 102
- MATH 110, 121, 122, 125, 216, 217 (Crim)

Engineering, Environmental Sciences Area

- BIOL 104, 155
- CHEM 101, 102
- COSC 110
- ENVE 101
- GEOS 101/102, GEOS 103/104, GEOS 119, GEOS 150, 201
- MATH 110, 121, 125, 216
- PHYS 111/121, 112/122

Ancillary Activities

STEM Academy students will be encouraged to participate in selected programs offered at IUP during the academic year.

Science Inspires Series – the College of Natural Science and Mathematics and IUP Sigma Xi Honors Society offer a series of lectures featuring research programs of CNSM faculty and prominent speakers discussing topics interdisciplinary in nature, of interest to faculty and students from a variety of academic fields and to the general public.

Women in Mathematics Science and Technology – in early April, the CNSM hosts a special program featuring accomplishments of women scientists. IUP faculty and women students present their research projects and compete for awards. A special feature of this program is specifically designed for area high school students.

Research Experiences for Summer Scholars – STEM Academy participants will be invited to participate in selected activities of the RESS Program offered in July and August. This is an opportunity to prepare for conducting scientific research under the mentorship of a faculty member.

IUP Scholars Forum – in early April, the University hosts a series of events featuring original research and scholarship generated at IUP.

For more information, please email dean-cnsm@iup.edu or call (724) 357-2609.

CNSM STEM Academy Preparation Areas

- **Computers/Cyber Security and Information Technology Interests (CCSIT):** COSC 101, COSC 105, COSC 110, MATH 110, MATH 125, MATH 217
- **Engineering, Sciences, Environmental Studies Interests (ESES):** BIOL 201, CHEM 111/112, GEOS 103/104, GEOS 201, MATH 105, MATH 110, MATH 121, MATH 125, MATH 217, PHYS 111/121, PSYC 101, SCI 105
- **Health Professions Interests (HP):** BIOL 104, BIOL 106, BIOL 107, BIOL 150, BIOL 201, CHEM 101/102, CHEM 111/112, MATH 101, MATH 105, MATH 121, MATH 125, MATH 217, PHYS 151, PSYC 101

Spring and Summer 2017 STEM Academy Pilot

STEM Academy students will be expected to enroll in classroom courses. Students interested in eventually continuing on to a specific major at IUP, please contact dean-cnsm@iup.edu for proper course selection.

Biology

BIOL 104 – Human Biology: How the Body Works

BIOL 106 – Human Genetics and Health

BIOL 150 – Human Anatomy

Chemistry

Students interested in pursuing pre-med or pre-professional degrees are advised to enroll in CHEM 111/112 to meet admission requirements to medical/professional schools. AP credits or CLEP scores are not accepted by those schools in lieu of Chemistry courses.

CHEM 101 – College Chemistry I

CHEM 102 – College Chemistry II

CHEM 111 – General Chemistry I

CHEM 112 – General Chemistry II

Computer Science

COSC 101 – Computer Literacy

COSC 105 – Fundamentals of Computer Science

Geoscience

GEOS 103/104 – Oceans and Atmospheres (lecture/lab)

GEOS 201 – Foundations of Geology

Mathematics

MATH 101 – Foundations of Mathematics
MATH 105 – College Algebra
MATH 110 – Elementary Functions
MATH 121 – Calculus I for Natural and Social Sciences
MATH 125 – Calculus I for Physics, Chemistry
MATH 217 – Probability and Statistics

Physics

PHYS 151 – Medical Physics Lecture
PHYS 112 – Physics II
SCI 105 – Physical Science I

Psychology

PSYC 101 – Introduction to Psychology

Summer 2017 STEM Academy Courses

Session One June 5 – July 7, 2017

BIOL 104 – Human Biology: How the Body Works
BIOL 150 – Human Anatomy
CHEM 101 – College Chemistry I
MATH 105 – College Algebra
MATH 217 – Probability and Statistics
PHYS 111 – Physics I Lecture
PHYS 121 – Physics I Lab
PSYC 101 – General Psychology

Session Two July 10 – August 10, 2017

CHEM 102 – College Chemistry II
MATH 217 – Probability and Statistics

