

REGISTRATION FORM

(Please type or print; photocopies are acceptable)

SUMMER SCIENCE CAMPS • JUNE 21-26, 2020

REGISTRATION DEADLINE: MARCH 15, 2020

List your camp preference (1st, 2nd & 3rd) below:

Molecular Biology _____

Chemistry/Physics _____

Mathematics _____

NAME _____ DOB _____ GENDER _____

HOME ADDRESS _____

CITY _____ STATE _____ ZIP _____

E-MAIL _____

SCHOOL _____

CLASS (as of January 2020): FRESHMAN SOPHOMORE JUNIOR SENIOR

SCHOOL ADDRESS _____

CITY _____ STATE _____ ZIP _____

PHONE: HOME () _____ SCHOOL () _____

KNOWN MEDICAL CONDITIONS/SYMPTOMS _____

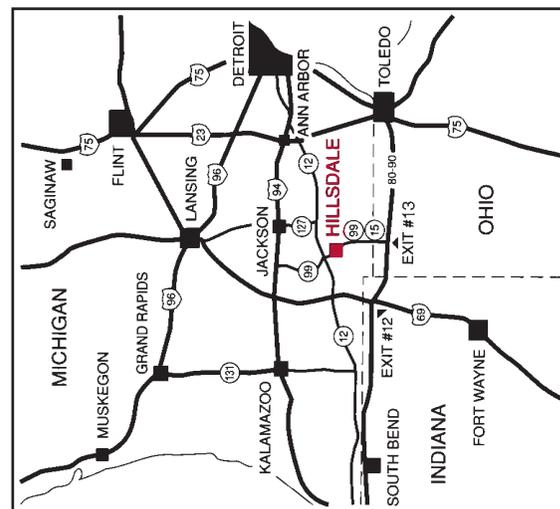
HAVE YOU ATTENDED A PREVIOUS HILLSDALE COLLEGE CAMP? YES NO
IF SO, WHICH CAMP(S) AND YEAR(S) ATTENDED? _____

ARE YOU INTERESTED IN RECEIVING COLLEGE CREDIT? YES NO

PLEASE SUBMIT ALL THREE OF THE FOLLOWING ITEMS TOGETHER IN ONE PACKAGE:

- 1) This completed form;
- 2) \$100 application fee (checks payable to Hillsdale College); and
- 3) A letter of recommendation from a teacher (non-parental/non-family member) explaining why this student should be chosen for the camp selected above;

AND MAIL TO: Summer Science Camps
c/o Cindy Hoard, Dow Science
Hillsdale College
33 E. College St.
Hillsdale, MI 49242



CELEBRATING
30 YEARS

hillsdale.edu



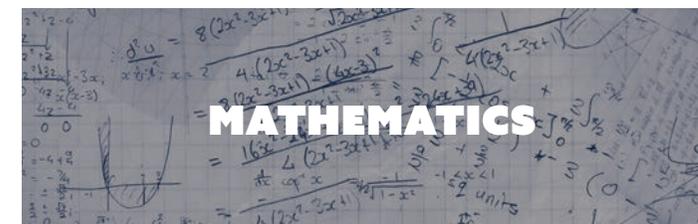
HILLSDALE COLLEGE

SUMMER SCIENCE CAMPS

SPONSORED BY
THE MURDOCK FOUNDATION

DIVISION OF NATURAL SCIENCES
& MATHEMATICS

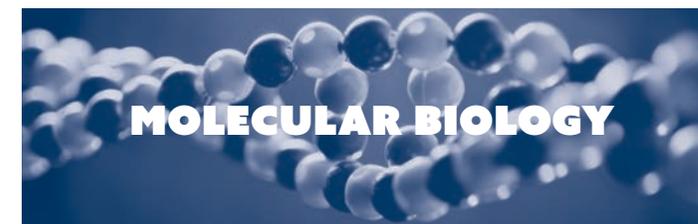
JUNE 21-26, 2020



MATHEMATICS



CHEMISTRY & PHYSICS



MOLECULAR BIOLOGY

INTENDED AUDIENCE

The 30th annual Summer Science Camps program is primarily intended for rising high school sophomores, juniors, and seniors interested in learning more about modern science. Students do not have to be science majors to attend, but those who have taken several science courses will gain the most from this program. While we try to accommodate local students, the camp welcomes and accepts students nationwide, and all students are encouraged to apply.

PURPOSE

The science camps seek to promote scientific literacy among high school students. These camps are designed to instill a deeper appreciation of what science is all about, the idea that science can be challenging as well as fun, and that science is both exciting and practical. Having attended a camp, students will come away with the view that today's science is an interdisciplinary and cooperative endeavor. Hopefully, many will want to pursue careers in science and choose to major in one of these fields in college.

CONTENT

MOLECULAR BIOLOGY CAMP

Molecular Biology is a very exciting area of science to explore. Most students have heard of genetic engineering, and this camp will allow students to gain firsthand knowledge by doing actual experiments in this field. The camp will be comprised of lectures and laboratories in an intensive hands-on format that will allow ample time for discussions and analyses of experimental results and procedures. Topics to be covered include: DNA/RNA chemistry, gene cloning, genetic engineering, manipulation of bacteria, bacterial transformation, isolation of plasmid and recombinant DNA, restriction analysis of DNA, agarose gel electrophoresis, real-time PCR, DNA sequencing, and DNA fingerprinting.



2019 SUMMER SCIENCE CAMPS

CHEMISTRY AND PHYSICS CAMP

The physical sciences lay the foundation for the life sciences as well as help prepare students for careers in physics, chemistry, and engineering. In addition, physics and chemistry are important in understanding polymers and in the growing areas of biophysics and biochemistry. This intensive weeklong camp will emphasize a hands-on laboratory experience as well. Students attending this camp will explore the following topics: chemical dyes, chromatography, spectroscopy, polymers, nanotechnology, holography, superconductivity, X-ray diffraction, and thermodynamics. The student will also take home some of the laboratory projects done in this camp.

MATHEMATICS CAMP

Mathematics has applications to many aspects of every day life. Previous camps have explored the use of mathematics in cryptology (codes), probability, symmetry, and the fourth dimension. Activities have included making and cracking codes, experimental estimation of Pi, and analyzing games and puzzles.

ITINERARY

SUNDAY, JUNE 21

- 2:00 p.m. Registration, Room Assignments
- 3:00 p.m. Campus Tour
- 5:15 p.m. Dinner
- 6:30 p.m. Introduction to Faculty/Program

MONDAY-THURSDAY, JUNE 22-25

- 7:45 a.m. Breakfast
- 9:00 a.m. Lecture/Laboratory
- 10:30 a.m. Break
- 12:00 p.m. Lunch
- 1:00 p.m. Lecture/Laboratory
- 3:00 p.m. Break
- 3:30 p.m. Lecture/Laboratory
- 5:00 p.m. Dinner
- 5:30 p.m. Free Time
- 7:30 p.m. Lecture/Laboratory

FRIDAY, JUNE 26

- 7:45 a.m. Breakfast
- 9:00 a.m. Lecture/Laboratory
- 12:00 p.m. Closing Luncheon
- 1:00 p.m. Examination for Optional One-Hour College Credit

FACULTY

Hillsdale College faculty Dr. Francis Steiner, professor of biology, and Dr. Silas Johnson, associate professor of biology, will instruct the Molecular Biology Camp. Dr. Lee Ann Baron, professor of chemistry, and Dr. Matthew Young, chairman and associate professor of chemistry, will conduct the Chemistry Camp. Dr. Ken Hayes, professor of physics, and Dr. Paul Hosmer, associate professor and chairman of physics, will teach the Physics Camp. Dr. David Murphy, associate professor of mathematics, and Dr. Kevin Gerstle, assistant professor of mathematics, will lead the Mathematics Camp. Additional staff will include student laboratory assistants.

COST/HOUSING/MEALS

A grant from the Donald L. Murdock Foundation will provide tuition, books, lodging, and meals. Upon registering by mail, each participant will receive a list of what to bring and other details. Students will stay on campus during the camp and house directors will be on duty. Free time will be provided each day for use of the Health Education and Sports Complex, as well as other college facilities.

LOCATION

Hillsdale College, founded in 1844, is an independent, coeducational, residential liberal arts college of 1,450 students. In its 176 years of existence, the College has never accepted federal-taxpayer subsidies for its operations. Located off M-99 in the southern Michigan city of Hillsdale, it lies approximately 90 minutes away from Toledo, Lansing, Fort Wayne, and Kalamazoo and is about a two-hour drive from Detroit. It is easily accessible via the interstate highway system and is located in the north part of the city of Hillsdale.

REGISTRATION

Registration will be limited to approximately 20 eligible applicants for each camp. The \$100 fee and a letter of recommendation are required with the application. In addition, the option of obtaining college credit for each camp is available upon passing an exam given on the last day of the program.

FOR ADDITIONAL INFORMATION, PLEASE CONTACT:

Francis X. Steiner, Ph.D. or **Cindy Hoard**

Biology Department
Hillsdale College
33 E. College St.
Hillsdale, MI 49242
fsteiner@hillsdale.edu

Science Division
Hillsdale College
33 E. College St.
Hillsdale, MI 49242
choard@hillsdale.edu

Or call (517) 607-2390