1 AQUATIC ECOLOGY AND INVASIVE SPECIES
We will identify the community of organisms present in the lakes and rivers of the area and learn about aquatic invasive species.
structor: Michelle Marko

2 REGISTERED NURSING AT CONCORDIA: A CALL TO SERVE
Hear about nursing as a vocation to service in the world. This hands-on workshop is for anyone contemplating a nursing career.
structor: Jennifer DeLong

3 A-MAZING EXPERIENCE
How fast can you find your way through a maze? Find out how psychologists study learning conditions.
structor: Peg Potter

4 ECONOMICS IN ACTION
Prices are changing all around you. Discover how consumer and producer actions impact your life on a daily basis.
structor: T. J. Hansen and Gregory Stutes

5 HISTORY MYSTERIES
What can everyday objects like photos, coins and clothing tell you about lives of historical people? How do historians construct the past from this evidence? You'll give it a try.
structor: Margaret D Sankey

6 I SPY IN THE NIGHT SKY
Learn to read star maps and use them to locate stars and constellations in the planetarium's simulated night sky.
structor: Scarlet Gray Bernard

7 PHYSICS OF MUSIC
How do flutes work? Can you make a musical instrument out of a soda straw? Come and find out!
structor: Ananda Shastri

8 THINK WILD!
What does a wildlife biologist do for a living? Learn about animals and their adaptations.
structor: Donna Bruns Stockrahm

9 WHY ASK QUESTIONS?
Explore the importance and difficulty of good communication. Why should you ask questions and what happens if you can't?
structor: Melissa Simundson

10 YOU CAN DO ROCKET SCIENCE
Explore what makes things fly and try your hand at a launch with a rocket that you design and build (weather permitting).
structor: Steve Lindaa

11 YOUR CAREER SAFARI
There are thousands of interesting occupations out there, and more are being created every day. Chances are good that you will end up in a job that you don’t know exists! This session will introduce you to some really cool professions, and talk about how you can explore the jungle of possibilities for you!
structor: Diane Wolter

12 ANIMALS APLENTY!
Discover how scientists collect digested food from cows, learn how to shear sheep, and see some pig ovaries!
structor: Casie Bass

13 BACTERIA AND VIRUSES AND FUNGI OH MY!
An introductory workshop that covers the board ideas that make up the sciences of Microbiology.
structor: Meredith Irsfeld

14 BUILDING A FUTURE
This workshop will give you an introduction into the world of architecture and help you understand the materials and techniques designers use to make full sized environments small scale.
structor: Brittany Taplin

15 CREATING TORNADOES
In this session we will talk about atmospheric pressure and what it can create, including strong winds and tornadoes. The entire session will be hands-on experiments of creating pressure gradient, wind, and finally tornado using atmospheric pressure and what it can create.
structor: Sarah Bundy

16 EMERGENCY MANAGEMENT AND HOMELAND SECURITY EXERCISE
Participate in a training exercise that puts you in the response role in a functioning emergency operations center.
structor: Sarah Bundy
17 EXPLORING WORLDS OF MORE THAN THREE DIMENSIONS
It is often useful to think of data as having many dimensions, many more than the three spatial dimensions. In this workshop, we will experiment with working in more than three dimensions.

Instructor: Anne Denton

18 FANTASTIC COMMUNICATION THROUGH VISUALIZATION
Creativity and design are the best tools for visualizing data and numbers. Bring your minds open and ready to massage your brain.

Instructor: Ludvik Herrera

19 GENERATION RX
Preventing the misuse and abuse of prescription medications.

Instructor: Sarah Schmidt

20 GOING GREEN?
Do you ever wonder what it means to be green? No it is not some super hero with a rink, or eating all of your vegetables. It is not difficult or changing everything you do. It is simply, simple changes you make in your everyday life in order to ensure we preserve the environment. This is true for you and businesses, come and find out what you can do.

Instructor: Anne Campbell

21 HANDS ON ENGINEERING
The students will learn about engineering up close using different materials to study the different kinds of engineering.

Instructor: Mackayla Headlee

22 HAPPY TAILS, INC.
What is it like to start a business? Imagine your own pet-based business and discover what it takes!

Instructor: Cynthia Timmerman

23 I WANT TO HOLD YOUR HAND
Learn about the profession of pharmacy and how to make lotions and lip balms using extemporaneous compounding techniques and equipment.

Instructor: Jeanne Timmerman

24 INDUSTRIAL FUN
Students will use their skills of optimization and teamwork to create their product the fastest. They will learn about industrial engineering and how it is utilized to make a process more efficient.

Instructor: Mackayla Headlee

25 INSECTS: THE GOOD, BAD, AND UGLY
Experience and learn amazing things about insects and their relatives.

Instructor: Deidre Prischmann-Voldseth

26 INSIDE YOUR CELL PHONE
You use your cell phone all the time, but how does it work? Learn the basic principles and tear one apart.

Instructor: Jamie King

27 IRRIGATION AND DRAINAGE
Remove excess water using subsurface drainage when soil is wet and add water to fields through subirrigation when soil is dry.

Instructor: Xinhua Jia

28 LEGO ROBOTICS
Learn to build and program your own Lego robots.

Instructor: Mackayla Headlee

29 MAKE YOUR OWN APP
Paper. Post-it notes, and markers can be the best tools to implement apps. Come and discover how design thinking and traditional basic tools can help you create your first mobile app.

Instructor: Ludvik Herrera

30 NURSING—LISTEN, FEEL, & PUMP IT UP!
Learn how to take vital signs, check for reflexes and listen to heart and lung sounds.

Instructor: Jennifer DeCock

31 PLASTICS, PAINTS, AND POLYMERS, OH MY!
Learn all about how plastics impact our daily lives. Make your own polymers in the lab to take home. Learn about color and paint; tint your own fingernail polish to take home with you!

Instructor: Victoria Gelling

32 RECYCLED MATERIALS IN CIVIL AND CONSTRUCTION APPLICATIONS
Hands-on demonstrations on the use of recycled materials in pavement and building applications.

Instructor: Magdy Abdelrahman

33 SCRATCH PROGRAMMING WORKSHOP
Scratch is a programming language that makes it easy to create your own interactive stories, animations, games, music, and art. It also allows you to share your creations on the web. As young people create and share Scratch projects, they learn important mathematical and computational ideas, while also learning to think creatively, reason systematically, and work collaboratively.

Instructor: Dr. Simone Ludwig

34 SEE HUMAN CELLS IN BRIGHT COLORS
Learn how to identify different parts of cells by coloring them with fluorescent dyes.

Instructor: Estelle Lecerc

35 SEE THE SURFACE OF THE SUN USING SOLAR TELESCOPES
This presentation will describe the sun and the use of properly filtered solar telescopes. View the sun outdoors.

Instructor: Loïs Ivers Altenburg

36 SLEEP
We will explore the world of sleep medicine including testing for sleep disorders and treatment of common sleep disorders. There will be an opportunity to participate in live sleep testing and to try CPAP therapy and oximetry. Students interested in pursing a career as a nurse, respiratory therapist, or physician, are welcome to join us for a hands-on, interactive class. Only two volunteers will be able to undergo sleep testing, but everyone will have the opportunity to try the CPAP equipment and observe the testing process.

Instructor: Seema Khosla MD

37 THE SCIENCE OF SYNESTHESIA
Learn about what synesthesia is from the perspective of a synesthete, the science, and possible causes of this “colorful” phenomenon.

Instructor: Kathleen Smith

38 THE STORY OF SOIL
Learn about the importance of soil organic matter for sustainable agriculture and natural resources management.

Instructor: Tom DeSutter

39 WE’RE ALL AGING
Learn about the field of gerontology (studying the aging process) while building empathy about the daily lives of older adults. Experience the aging process yourself through sensory simulations.

Instructor: Dr. Gina Aaigard Kelly

40 WETLANDS: THE SMELLY SOIL SECRETS
Did you know plants affect the soil they grow in? Get your hands dirty and learn some wetland soil chemistry.

Instructor: LaToya Kissoon

41 WHAT’S INSIDE A SEED
Learn the parts that make up a plant seed and extract DNA from wheat germ using common household items.

Instructor: Lynn Dahleen

42 EXPLORING HEALTHCARE!
Six hands-on activities: Infection Prevention, Behind the scenes in OR, SQ Injections, Fracture Support, OB: Babies R-us!, and “Shake it up” CPT Vest.

Instructor: Trish Wetzel

43 SANFORD HEALTH: SPEECH-LANGUAGE PATHOLOGY, OCCUPATIONAL THERAPY, AND PHYSICAL THERAPY EXPLORATION
An SLP, OT, and PT representative will present and demonstrate practices within our professions related to science and math.

Instructor: Heidi Fiskness

44 SOCIAL WORKERS: THINKING OUTSIDE THE BOX
Learn about different possibilities in the social worker field and participants in a hands on mindfulness activity.

Instructor: Amanda Mosbrucker

45 CRITICAL CARE NURSES MAKE A CRITICAL DIFFERENCE
Hands-on experience of the critical care nurse. Tour the ICU and revocery room and experience using some of the equipment. Have fun and learn the importance of science within a nursing career.

Instructor: Tamra Bigger

46 ZOOLOGY
Learn about zookeeping and animal husbandry. Participants will have a chance to see animals and learn how they are kept healthy.

Instructor: Kelsey Hoium-Johnson
**STUDENT REGISTRATION & RELEASE FORM**

**EXPANDING YOUR HORIZONS**

- **A PARENT OR GUARDIAN MUST SIGN THIS FORM FOR A STUDENT TO BE REGISTERED.**
  Registration fee of $15 covers cost of lunch, conference expenses, and materials. Please fill in all information on this form and enclose a check (payable to NDSU) and mail to:

  Expanding Your Horizons,
  NDSU Dept 2020, PO Box 6050,
  Fargo, ND 58108-6050.

  Preregistration is required. Registration fees refunded until March 8. Participants will receive a postcard confirming their registration.

- **INDICATE NUMBER OF FIRST EIGHT CHOICES FOR WORKSHOPS**
  Put workshop number in blanks provided. Registration is limited to the first 600 applicants. Workshops will be assigned on a first come, first served basis.
  Popular workshops fill up quickly, and are assigned on the basis of availability.

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  If any of the above workshops are filled, what areas are you interested in? (please circle)

- **PARENT/LEGAL GUARDIAN’S SIGNATURE**

**Questions about this form? Contact NDSU DCE (701) 231-7015 or ndsu.dce@ndsu.edu**
ASSUMPTION OF RISK AND RELEASE

The undersigned hereby releases, waives, discharges and covenants not to sue North Dakota State University, its officers, agents, employees, and DCE-EYH, all of which hereinafter known as "NDSU" from all liability to the undersigned. In consideration of being permitted to participate in: Expanding Your Horizons

The undersigned in full recognition and appreciation of the dangers and hazards inherent in the above activity, does hereby agree to assume all the risks and responsibilities surrounding my participation therein, and further, do for myself, my heirs, and personal representatives, hold harmless, release and forever discharge NDSU from and against any and all liability, damages, claims, demands, actions, or causes of actions, on account of damage to personal property or personal injury or death which may result from my participation therein whether caused by the negligence of NDSU or otherwise.

The undersigned hereby assumes full responsibility for, and risk of bodily injury, death or property damage due to the negligence of the releasees or otherwise while in, about or upon the premises of NDSU or while participating in the above described event.

IN WITNESS WHEREOF, I have caused this release to be executed this day.

________________________________________________________  __________________________________________________________  ________________
PARENT/GUARDIAN SIGNATURE  PRINTED PARENT/GUARDIAN NAME  DATE

________________________________________________________  ________________________________
RELATIONSHIP TO STUDENT  HOME PHONE

In an emergency, if I cannot be reached, contact (preferably another parent or legal guardian):

________________________________________________________  ________________________________  ________________
NAME  RELATIONSHIP TO PARTICIPANT  PHONE

Please indicate if photographs of your child or other reproductions of your child’s likeness may be used in future EYH materials, including EYH websites (without names): _______ YES _______ NO

Questions about this form? Contact NDSU DCE (701) 231-7015 or ndsu.dce@ndsu.edu