

Integrated Health Sciences & Research Curriculum (IHSR) Overview



<https://hst.vt.edu/campus/IHSR.html>

Outline for today's discussion

- 1) Broad vision for the program
- 2) Goals of the IHSR curriculum and beyond
- 3) Target audiences
- 4) Program structure
- 5) Curriculum overview
- 6) Fit into majors
- 7) Experience of Current Students

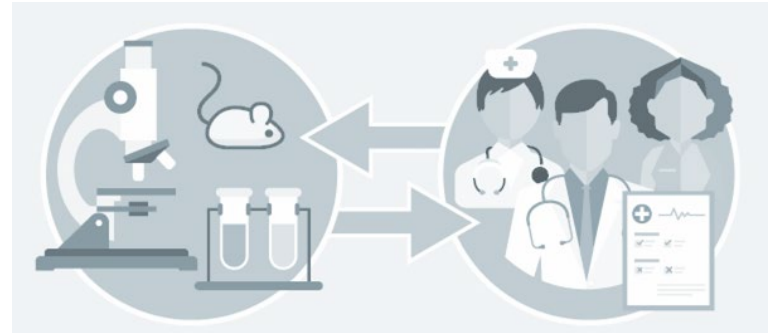
Vision: Expand VT Undergraduate Programs in Roanoke

- The Integrated Health Science & Research (**IHSR**) Program will demonstrate pathways to expand VT undergraduate education opportunities in Roanoke.
- IHSR's creation and successful launch solidified a productive partnership between a VT academic college and thematic research institute. This work can be further enhanced by adding VTC School of Medicine and clinical partners.
- Ultimately these efforts can help create a Health Sciences Living-Learning Community in Roanoke focused on innovative and sustainable health research and health outcomes through vibrant public-private partnership.



Integrated Health Science & Research (IHSR) Curriculum Goals:

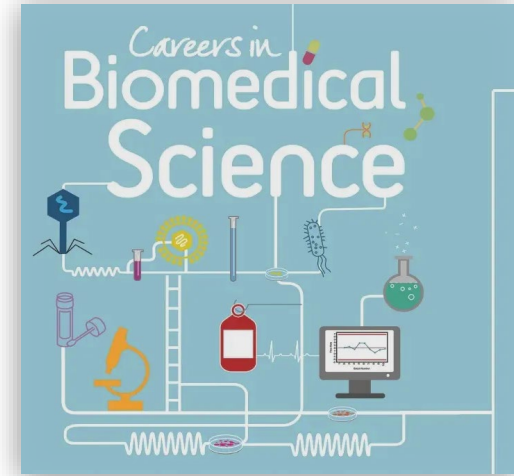
- Increase experiential learning & research opportunities for VT undergraduates at the Fralin Biomedical Research Institute (FBRI) and elsewhere on the Roanoke campus.
- Offer didactic coursework in Roanoke that integrates biomedical science, clinical perspectives and experiences.
- Create outstanding professional development, tailored mentoring, career/post-grad preparation
- Increase competitiveness for VT students' graduate program applications



Integrated Health Science & Research (IHSR) Curriculum

Target Audiences:

- VT undergraduates interested in careers in biomedical science & health professions.
- First cohort includes VT College of Science students majoring in: Biological Sciences, Nanomedicine, Neuroscience and a few others.
- Program is also open to other majors in College of Science and beyond.



IHSR Innaugrual Cohort (Fall 2022)

	Applicants	Current Cohort
Size	73	18
Gender	21 Male, 50 Female	5 Male, 13 Female
Year	22 Soph, 31 Junior, 20 Senior	9 Soph, 4 Junior, 5 Senior
Major	36 Bio, 20 Neuro, 7 Nano, 10 Other	6 Bio, 6 Neuro, 3 Nano, 3 Other

- Recruited cohort size was 20
 - Currently at 18 students



Integrated Health Science & Research (IHSR)

Curriculum Overview

Sophomore Fall	Sophomore Spring
1 cr AIS 2404 Intro to Biomedical Research Students meet FBRI faculty, begin match process	1 cr AIS 4414 IHSR Presenting Scientific Research Students join FBRI labs 3 cr XXXX 2994 Research Credits
Junior Fall	Junior Spring
1 cr AIS 4404 IHSR Discussing the Scientific Literature 3 cr XXXX 4994 Research Credits	1 cr AIS 4414 IHSR Presenting Scientific Research 3 cr XXXX 4994 Research Credits
Senior Fall	Senior Spring
1 cr AIS 4404 IHSR Discussing the Scientific Literature 3-6 cr XXXX 4994 Research Credits 2 cr TBMH 4964 Shadowing X cr Coursework (Online or in Roanoke)	1 cr AIS 4414 IHSR Presenting Scientific Research 3-6 cr XXXX 4994 Research Credits 2 cr TBMH 4964 Shadowing X cr Coursework (Online or in Roanoke)

Research Expectations

- Students have to sign up for at least 3 credits of research each semester
 - 3 credits = 10 hours in lab
- Expect lab hours to fit in between your classes
- Challenge: Travel distance/time
 - Smart Way Express bus is wi-fi equipped and is free (with VT ID)
 - Parking garage is free and has plenty of space

IHSR Courses (Approval in Progress)

- **AIS 2404** Intro to Biomedical Research
 - Hear from faculty interested in recruiting students. Go over requirements.
- **AIS 4414** IHSR Presenting Scientific Research
 - Seminar for all years
 - Practice presenting your research, get feedback from your peers
- **AIS 4404** IHSR Discussing the Scientific Literature
 - Journal Club for Juniors and Seniors that have already joined a research group
 - Practice reading and discussing scientific literature with your peers
- Other classes in development:
 - Exploring Biomedical Careers: Help with applying to graduate and professional programs
 - Special Topics: Classes focused on biomedical topics

Where Do Courses Fit Into My Major?

- Biological Sciences (with or without biomedical option)
 - Intent is for courses to count as Biological/Biomedical Electives
 - Research credits would count as BIOL 4994 (3-4 credits depending on checksheet)
- Neuroscience
 - Intent is for courses to count as Restricted Electives
 - Looking into possibility of NEUR 4044 Senior Seminar equivalent being offered in Roanoke
 - Research credits would count as NEUR 4994 (3 credits)
- Nanoscience/Nanomedicine
 - Intent is for courses to count as Restricted Electives
 - Research credits would count as NANO 4994 (8 credits)

Experience of Current Students

Carlos Perez-Torres
Collegiate Associate Professor
Academy of Integrated Science
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Sarah Clinton
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