Integrated Health Sciences & Research (IHSR) Overview
What is the Integrated Health Science & Research (IHSR) Program?

• A multi-year undergraduate program offered on the VT Health Science & Technology Campus in Roanoke.

• Main goals:
  • Attract VT undergraduates to engage in experiential learning & research opportunities at world-class facilities at FBRI.
  • Offer coursework & clinical exposure that integrates biomedical science and clinical perspectives.
  • Deliver tailored professional development and career mentoring to boost competitiveness for graduate program and employment applications.
Who are ideal students for IHSR?

- Freshman and sophomore VT undergraduates interested in biomedical research and a career in health professions, clinical or translational research.

- Current IHSR students major in Biological Sciences, Nanoscience, Nanomedicine, and Neuroscience.

- We welcome students from all majors.
Timeline

Blackburg
• Application deadline: February 5th.
  Acceptance notifications by March 15th
• Welcome event in April
• Early lab match for interested students: start connecting with potential research mentors.

Roanoke
• Fall semester: IHSR orientation and Roanoke campus tour.
• Fall semester, Lab work in Roanoke (≥10 h/week)
• Spring semester, Lab work in Roanoke (≥10 h/week)
• Spring semester, Lab work in Roanoke (≥15 h/week)
• Spring semester, Lab work in Roanoke (≥15 h/week)

Steadily increase time in Roanoke over 6-semester-long program, spending ≥10 h/week lab and adding clinical shadowing, Roanoke-based courses, seminars and other Health Science & Technology campus activities.

• AIS 2404 Intro to Biomedical Research in Blacksburg (lab prep, ethics, expectations)
• AIS 2984 Career Development in IHSR (virtual)
• AIS 4404 Discussing Scientific Literature
• AIS 4414 Presenting Scientific Research
• Elective courses in-person in Roanoke
• Elective courses and option to shadow in Roanoke
• Elective courses and option to shadow in Roanoke
• AIS 4964 Clinical Shadowing Experience

• Optional: TBMH 4964 Clinical Shadowing Experience
• Elective courses and option to shadow in Roanoke
• Elective courses and option to shadow in Roanoke

• Spring semester, Lab work in Roanoke (≥15 h/week)
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• Capstone presentation of research project
• Elective courses and option to shadow in Roanoke
• Elective courses and option to shadow in Roanoke

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Integrated Health Science & Research (IHSR) Program

Courses:

<table>
<thead>
<tr>
<th>Introductory Coursework</th>
<th>Experiential Learning</th>
<th>Clinically-focused classwork and professional development</th>
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<tbody>
<tr>
<td>AIS 2404 Introduction to Biomedical Research (learn about research areas at FBRI; meet faculty to identify research mentor)</td>
<td>AIS 2994/4994 Research in mentor lab (3 credits/semester in initial semesters with increasing number of credits in later semesters)</td>
<td>AIS 2984, IHSR Career Development (New virtual course offered in Spring 2024)</td>
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<td>AIS 4044 IHSR Scientific Literature (basics of literature searches, reading and evaluating scientific papers, and linking basic science papers to clinical issues)</td>
<td>TBMH 4964 Field Work/Practicum (Clinical Shadowing)</td>
<td>AIS 4984, Clinical and Scientific Perspectives on Addiction (New in Spring 2024)</td>
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<tr>
<td>AIS 4414 IHSR Presenting Scientific Research (basics of written, oral and other presentation formats; students begin giving presentations on their lab work)</td>
<td></td>
<td>AIS 4984 Radiation Biology (New in Spring 2024)</td>
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- Required of all IHSR students
- Electives will be offered in-person in Roanoke; we will work with departments to request permission to incorporate classes into graduation checksheets as ‘restricted electives’
Current IHSR students

<table>
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<th>Current # IHSR students</th>
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<tr>
<td>Sophomore</td>
<td>14</td>
</tr>
<tr>
<td>Junior</td>
<td>17</td>
</tr>
<tr>
<td>Senior</td>
<td>6</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>37</strong></td>
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MAJORS

- **Biological Science**: 33%
- **Neuroscience**: 34%
- **Biochemistry**: 10%
- **BEAM**: 5%
- **Public Health**: 5%
- **Nanomedicine**: 5%
- **Microbiology**: 8%
Recruitment Plans for 2024-25 Cohort

- Plan to recruit 20 students for the next cohort.
- Application site opens Dec 1st (deadline February 5, 2024)
- Will offer info sessions in January.
Integrated Health Sciences and Research Program

An immersive undergraduate research experience with world-class faculty from the Fralin Biomedical Research Institute at VTC and the College of Science at Virginia Tech’s Health Sciences and Technology Campus in Roanoke. An academic program of the College of Science.

https://hst.vt.edu/campus/IHSR.html
Questions?

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IHSR Instructional Faculty:
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