

Health Scholars Application - Summer 2020

This is the application for the summer 2020 Rockswold Health Scholars and Health Scholars at the Mayo Clinic programs. FOR A COMPLETE APPLICATION, YOU ALSO NEED TO UPLOAD YOUR UNOFFICIAL TRANSCRIPTS AND RESUME TO HANDSHAKE AND APPLY TO THE INTERNSHIP. See instructions on website. In Handshake: upload your resume (one page) and your unofficial transcript (access SIS and save as a .pdf). You will also need to provide a link to your uploaded video at the end of this form. Please see the complete directions on our websites for more information.

Your email address (**hughes8@stolaf.edu**) will be recorded when you submit this form. Not **hughes8?**

[Sign out](#)

* Required

1. **First Name ***

2. **Last Name ***

3. **Class Year ***

Mark only one oval.

Junior (2021)

Sophomore (2022)

4. **My preferred pronouns are... ***

5. **Major ***

6. **Major (#2, if applicable)**

7. **Concentration (if applicable)**

8. **Concentration (#2, if applicable)**

9. **Cumulative GPA ***

10. **If accepted for this position, will you have any other time commitments during the summer? There is a clear expectation that you will be fully engaged in the program. (INDICATE YES OR NO BELOW. IF YES, PLEASE EXPLAIN.) ***
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Internship preferences

IMPORTANT NOTE: For the internship preferences questions, please RANK ORDER your top four choices. Internship preference #1 = your top choice and internship preference #4 = your fourth choice.

IF YOU ARE ONLY APPLYING TO ONE PROGRAM, please indicate WHICH program (the "Given a choice,"... question) and ONLY rank order the internship positions for that one program in the internship preferences. For example, if you are only applying to Mayo, you would respond with "Yes - Mayo is my top choice" to "Given a choice, do you have a preference for one of the internship sites?" and rank order the Mayo internships.

IF YOU ARE APPLYING TO BOTH PROGRAMS, please honestly indicate your preference for one of the internship sites if you have one. It is ok to not have a preference, but please share your preference if you have one.

Available Internships at Rockswold Health Scholars for 2020: (PLEASE NOTE: Some internship placements have changed from last year. Please read through all available placements below before ranking your preferences.)

Clinical Rotations (2 students): The goal of the clinical rotations experience is to provide students exposure and involvement in specific clinical areas such as emergency medicine, family practice, sleep medicine, various surgical specialties, and psychiatry. During these clinical rotations, students would be exposed to the diverse patient population served at HCMC as well as clinical providers including nurses, occupational and physical therapists, clinical pharmacologists, and many others. In addition, the students would have opportunity to interact with physicians at many levels of their development including medical students, resident trainees early in their clinical exposure, as well as chief residents who are well advanced.

Public Health (1 student): The goal of the public health experience is to provide students with firsthand exposure to public health programs offered through Hennepin County Health Systems, Inc. and in the community. This rotation is best suited for individuals interested in pursuing community and public health as a potential career path. This rotation will be similar to the clinical rotations, but it will focus on several specific, award-winning health care programs unique to Hennepin County. Areas of rotation may include the Hennepin County Detention Center (Jail), the Health Care for the Homeless Project, team-based care model clinics like the Coordinated Care Clinic and Hennepin Health Access Clinic, and Aquí Para Ti (clinic-based development program for Latino youth). The final research project can stem from one of these rotation areas, as the student intern collaborates with their mentor to determine their research project. Depending on the student's area of interest, alternative projects may be available through additional public health sites. The Public Health experience involves project work, shadowing, and interview experiences that can be tailored to fit an applicant's personal interests. The ideal candidate is highly self-motivated, independent, and excited to help develop clinic-based projects. The selected student for Public Health Rotations cannot be studying abroad for Spring 2020 due to onboarding needs at HCMC that must be completed in person and take weeks to complete.

Chronic Disease Research Group (1 student - student needs to have taken STAT 272)
 Unlike the other positions in the Rockswold Scholars program, CDRG is primarily data-driven and requires only an interest in the field of health, not a plan to attend medical school. My internship relied heavily on my knowledge of R and allowed me to build on my knowledge of statistical models to create an interactive tool for physicians related to kidney transplant outcomes. It is incredibly valuable to see something that you made have potentially life-changing effects for patients. In addition to my statistical work, I was able to shadow in several different departments and get a feel for how doctors use and have a need for the kind of data analysis that I worked on.

Drug Addiction Research (1 student)

While various treatment options are available for individuals diagnosed with opioid use disorders (OUDs), limitations to existing therapies suggest that alternative treatment options could be advantageous. Recently biological treatments, including vaccines, have constituted a more nontraditional and relatively novel approach to the treatment of OUDs. Dr. Michael Raleigh and his team are currently working on developing a novel vaccine treatment for opioid use disorders. They are in the process of migrating in to the clinical realm; a vaccine is in development and being prepared for clinical studies. When scaling up producing for clinical testing assurance tests are vital to ensure quality production. However, the current technique used to characterize the vaccine is time consuming, tedious, and more appropriately suited for quantitative applications. Our goal was to develop a simpler method to evaluate the identity of key components in solution. I met with my mentor on a weekly basis, but spent most of my time with a lab tech. On a day to day basis, I helped out with bench work and animal work. This included running various assays (ELISAs, dot blot, etc.), processing data, and helping out with tail bleeding, vaccinating, ear tagging, euthanizing, and pharmacokinetic studies (decapitating rats and obtaining blood and brain samples). Overall, projects were very collaborative; we had weekly meetings on Wednesdays, during which we discussed the lab's progress, problems, and updates. Most people that I worked alongside or that I met during my time in the lab were incredibly helpful and kind. In addition, I had ample time to explore other areas of the hospital; there were an abundance of learning opportunities. I usually spent an average of 0–2 days shadowing each week. Overall, the research was collaborative, hands on, and provided valuable insight to the role of a medical researcher in a hospital setting.

Cardiac Biomarker Trials Laboratory (1 student)

With the guidance of Dr. Apple, the student will investigate the issues with diagnostic coding for myocardial infarctions. Dr. Apple's research interests have centered in the areas of cardiac biomarkers in acute coronary syndrome and heart failure, as well as forensic toxicology. This study will help give the student a greater understanding of the complex way research, clinical care, public health, and health care policy all interact in the storage and analysis of information and how flaws can be propagated in these areas.

Behavioral Health/Addiction Research (1 student)

This research, conducted by a clinical psychologist and behavioral health researcher, studies cigarette smoking and related diseases. The lab has two ongoing studies: The first is a study examining why rates of lung cancer screening are so low compared to other cancer screenings aimed at the same age group. For this study, we are surveying patients and providers in MN to ask them about their experiences with lung cancer screening. The second study is developing a strategy to implement smoking cessation treatments into MN community mental health centers. Students in this lab would have the opportunity to help mail, fax and email surveys to patients and to conduct surveys over the phone. This would be a great opportunity for someone who wants a career in the healthcare field to get experience interacting with patients. We will also be conducting qualitative interviews of community mental healthcare patients and staff, and students could have the opportunity to sit in on those interviews and to help with coding and data analysis. If the student contributes meaningfully to either project, they could be included on publications that come out of the projects.

Please read more about each placement here before ranking your internship choices:

https://docs.google.com/document/d/1cGHW75fkOaQeb3LA_K9WpNn6uiDkIQ9Y4y4xi1hKnT8/edit?usp=sharing

Available Internships at Mayo for 2020: (PLEASE NOTE: Some internship placements have changed from last year. Please read through all available placements below before ranking your preferences.)

Colon Surgery Research Project: One student will be involved with a retrospective, case controlled and cohort study in surgery. The student will be exposed to clinical informatics on practice performance and outcomes, standardization and surgical outcomes including economics, and outcomes research involving National Benchmarks and National Database.

Oncology Research Project: One student will be involved with selection of a retrospective clinical project in sarcomas. The student will be exposed to IRB, statistics, chart abstraction, and analysis of data for preparation for presentation and publication.

Sleep Neurology Research Project: One student will be involved with a research project related to sleep neurology, with a strong preference for selection of students with a major in neuroscience and/or psychology, and a planned future career interest in these or related fields. The student will be exposed to sleep neurology and analyze data for preparation for presentation and publication. It is expected that the student commit approximately 75% or more of their time primarily to research activities during their summer appointment in the sleep laboratory.

Thoracic Surgery Research Project: One student will be involved in a retrospective clinical research project analyzing data we have prospectively collected on surgical treatment of thoracic surgical diseases over the past 30 years. The student would be exposed to formulation of hypotheses, preparation of IRB research proposals, patient chart data abstraction, and analysis of data for publication and presentation. The goal for the summer would be to have a paper that could be submitted to a peer-reviewed journal, and possible oral presentation at thoracic surgical meeting.

Anesthesiology Research Project: One student will work with a faculty biostatistician and their team doing collaborative research in anesthesia and perioperative medicine. Examples of recent studies by this group include: (i) assessing the association between surgery with anesthesia and subsequent cognitive decline in older adults, (ii) predicting risk of death among pediatric patients awaiting liver transplantation to potentially improve organ allocation policies, and (iii) assessing the association between platelet transfusion during surgery and subsequent acute outcomes in the hospital. We use observational data from Mayo Clinic patients to improve knowledge of disease and evaluate possible therapeutic strategies. This is a biostatistics emphasis for a student obtaining or considering obtaining a concentration in Statistics and Data Science. Student must have completed the prerequisite STAT 272 Statistical Modeling.

Ovarian Cancer Biostatistics Research Project: One student will work with a faculty biostatistician and their team doing research in ovarian cancer genetics, particularly focused on X chromosome inactivation. This will involve using genetic data of multiple types from Mayo Clinic ovarian cancer patients to improve knowledge of disease mechanisms. Projects will use the R programming language. This is a biostatistics emphasis for a student obtaining or considering obtaining a concentration in Statistics and Data Science. Student must have completed the prerequisite STAT 272 Statistical Modeling.

Computational Genomics Research Project: One student will work with a faculty biostatistician and their team conducting research in areas relevant to statistical genetics and bioinformatics at Mayo Clinic. Potential topics include genetic epidemiology of complex diseases (e.g., cardiovascular disease, cancer), diagnostic assays using next-generation sequencing, and multi-omic data analysis. This is a biostatistics emphasis for a student obtaining or considering obtaining a concentration in Statistics and Data Science. Student must have completed the prerequisite STAT 272 Statistical Modeling.

11. I have carefully read through the descriptions above of all available placements for 2020. *

Mark only one oval.

Yes

No

12. What program(s) are you applying to? (Check all that apply) *

Check all that apply.

Rockswold Health Scholars

Health Scholars at the Mayo Clinic

13. Given a choice, do you have a preference for one of the internship sites? *

Mark only one oval.

Yes - Mayo is my top choice

Yes - Rockswold (HCMC) is my top choice

No - I do not have a preferred site

14. Internship preference #1 **Mark only one oval.*

- Mayo - Colon & Rectal Surgery Research
- Mayo - Thoracic Surgery Research
- Mayo - Oncology Research
- Mayo - Neurology/Sleep Clinic Research
- Mayo - Anesthesiology Biostatistics Research
- Mayo - Ovarian Cancer Biostatistics Research
- Mayo - Computational Genomics Biostatistics Research
- Rockswold - Clinical Rotations
- Rockswold - Public Health Rotations
- Rockswold - Drug Addiction Research
- Rockswold - Chronic Disease Research Group (CDRG) Research
- Rockswold - Cardiac Biomarkers Research
- Rockswold - Behavioral Health/Addictions Research

15. Internship preference #2 **Mark only one oval.*

- Mayo - Colon & Rectal Surgery Research
- Mayo - Thoracic Surgery Research
- Mayo - Oncology Research
- Mayo - Neurology/Sleep Clinic Research
- Mayo - Anesthesiology Biostatistics Research
- Mayo - Ovarian Cancer Biostatistics Research
- Mayo - Computational Genomics Biostatistics Research
- Rockswold - Clinical Rotations
- Rockswold - Public Health Rotations
- Rockswold - Drug Addiction Research
- Rockswold - Chronic Disease Research Group (CDRG) Research
- Rockswold - Cardiac Biomarkers Research
- Rockswold - Behavioral Health/Addictions Research

16. Internship preference #3 **Mark only one oval.*

- Mayo - Colon & Rectal Surgery Research
- Mayo - Thoracic Surgery Research
- Mayo - Oncology Research
- Mayo - Neurology/Sleep Clinic Research
- Mayo - Anesthesiology Biostatistics Research
- Mayo - Ovarian Cancer Biostatistics Research
- Mayo - Computational Genomics Biostatistics Research
- Rockswold - Clinical Rotations
- Rockswold - Public Health Rotations
- Rockswold - Drug Addiction Research
- Rockswold - Chronic Disease Research Group (CDRG) Research
- Rockswold - Cardiac Biomarkers Research
- Rockswold - Behavioral Health/Addictions Research

17. Internship preference #4 **Mark only one oval.*

- Mayo - Colon & Rectal Surgery Research
- Mayo - Thoracic Surgery Research
- Mayo - Oncology Research
- Mayo - Neurology/Sleep Clinic Research
- Mayo - Anesthesiology Biostatistics Research
- Mayo - Ovarian Cancer Biostatistics Research
- Mayo - Computational Genomics Biostatistics Research
- Rockswold - Clinical Rotations
- Rockswold - Public Health Rotations
- Rockswold - Drug Addiction Research
- Rockswold - Chronic Disease Research Group (CDRG) Research
- Rockswold - Cardiac Biomarkers Research
- Rockswold - Behavioral Health/Addictions Research

18. Although I have listed my top internship placements, I would like to be considered for other placements if the selection committee believes I am qualified and it would be a good opportunity for me. **Mark only one oval.*

- Yes
- No
- Other: _____

Faculty references

It is the student's responsibility to confirm with the 2 faculty members listed in their application that they are willing to provide a REFERENCE (not a letter of recommendation), if requested.

19. **List the name of 1 (of 2) St. Olaf faculty member who knows you well. The selection committee may call on your faculty reference(s) for information related to your general character, motivation and qualifications for the program. ***

20. **List the name of the 2nd (of 2) St. Olaf faculty member who knows you well. The selection committee may call on your faculty reference(s) for information related to your general character, motivation and qualifications for the program. ***

Essay Questions

For the essay questions, there is a 2000 character limit for each (~300 words).

21. **Why do you want to be a Health Scholar and why do you think this program is a good fit for you at this time? As part of your answer, please describe your current vocational and career interests and goals and explain how the Health Scholars program will contribute to your vocational discernment and career goals. ***

22. **Describe one unique thing about yourself and how you anticipate being a contributing member of the living and learning community ***

There is a CLEAR expectation that Health Scholars stay in their respective city for the MAJORITY of the weekends during the internship.

Video

To help the selection committee, we ask that you please upload your video to YouTube. Please make the video Public or Unlisted, and share the link with us below. Only people who have your link will be able to see the video if you make it unlisted. Please do not make it Private, as you will not be able to share a link if it is private.

23. Please provide the link to a YouTube Video that addresses the following questions: Tell us more about your interest in your top choice internship placement. Why do you believe this is the best internship placement for you, and how did you go about making that decision? What do you know about the hospital (Mayo or HCMC), and how does this knowledge contribute to your choice? *

Send me a copy of my responses.

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