

## SYLLABUS: HONR 497 WVU SURE 2023 Research Experience

<i>Course:</i> HONR 497-H02 (CRN #: 52065) HONR 497-H03 (CRN #: 52076)  <i>Title:</i> Undergraduate Research <i>Credit Hour(s):</i> 1	<b>Amy Hessler, SURE Co-PI &amp; Rita Rio, SURE Co-PI:</b> ( <a href="mailto:SURE@mail.wvu.edu">SURE@mail.wvu.edu</a> )  <b>GTAs:</b> Emily Heller (H02) ( <a href="mailto:SUREGTA.EH@gmail.com">SUREGTA.EH@gmail.com</a> ) and César Castellón Gort (H03) ( <a href="mailto:suregtawvu@gmail.com">suregtawvu@gmail.com</a> )
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**Course Objectives:** Honors 497 will be taught in collaboration with the SURE experience. The mixed virtual and in-person class will help participants reflect on their growth as researchers while also providing them with training to improve their responsible conduct of research, communication, collaboration, and technical presentation skills. For SURE 2023, students will read *Lab Girl* by Hope Jahren and develop personal statements for building onto external applications for graduate school and for post-baccalaureate scholarships (NSF GRFP, NIH Ruth L. Kirchstein Predoctoral and Dual Degree Individual National Research Award (F31 and F30), Goldwater Scholarship, Fulbright program etc.). Speakers working in both public and private sectors will offer career advice prompting participants to consider their academic and professional futures. Participation in this course also provides access to all West Virginia University libraries and relevant virtual and in-person research needs.

**Course Pre-requisites/Co-requisites:** Students enrolled in Honors 497 (H02 & H03) must be participants in the WVU SURE program.

**Course Requirements:** Participants must have an active West Virginia University MIX account and access to WVU's eCampus platform (<https://ecampus.wvu.edu/>). Any required readings will be provided electronically. Participants are required to complete all assignments by the specified due dates and participate fully in a selection of online and in-person activities. **Attention to e-mail and eCampus is key. Participation depends on students having access to adequate computer resources and access to dependable internet.**

**Mutual Expectations:** It is the intent of the instructors of this class to establish and maintain a positive learning environment based upon communication and mutual respect. Any suggestions as to how to further such an environment will be appreciated and given serious consideration. The class will be conducted in accordance with the University's commitment to social justice and academic honesty. Therefore, the policies and procedures outlined in the *WVU Campus Student Code* (<https://studentconduct.wvu.edu/campus-student-code>) apply throughout the course.

**Grading:** Grades will be determined by three factors:

a. **Attendance:** Participant attendance is required for a minimum of eight (8) of the weekly and biweekly workshops, speakers, and networking social events. Participants are welcome and encouraged to attend more than the minimum number of events. These events are typically scheduled for before or after the normal research day. Participant attendance is also required at the in person one-day orientation (Tuesday May 30, 125 Brooks Hall) and at the in-person Summer Undergraduate Research Symposium (Thursday July 27, Mountainlair). In addition, participants must meet weekly with their faculty research mentor and/or laboratory group to discuss their research and assess their performance to date on their research project.

b. **Participation:** All assignments will be electronic and may require participant comments, feedback and/or discussion. All participants should actively and constructively engage with the required assignments, while adhering to a code of mutual respect.

c. **Assignments:** Participants should complete written/online assignments by **11:59 PM** on their due dates. These assignments should reflect clarity, organization, and mastery of the subject material. Late work will be assessed a 10% per day numerical deduction or deduction of one letter grade per day. Late work will not be accepted 48 hours past the due date.

d. **Final grades** will be calculated as shown below. Associated letter grades are A = 90-100%; B = 80-89%; C = 70-79%; D = 60-69%; F < 60%.

Calculation of Final Grade	Due Date	Percent
Orientation Day	May 30	4%
Mentor-Mentee Agreement	June 2	2%
Participant Mid-Program Meeting w/TA (30 min.)	mid-program	2%
<a href="#">Biweekly Research Reports</a>	June 11 & 25; July 9, 23, 28	18%
Weekly and Biweekly Workshops (8 minimum)	Throughout	16%
Personal Statement: Part I	June 9	5%
Personal Statement: Part II	June 19	7%
Personal Statement: Part III	June 29	8%
Rough draft of Abstract (approved by all authors) in <a href="#">ForagerOne</a> and <a href="#">eCampus discussion board</a>	July 7	5%
Peer Review of 3 abstracts from assignment above (discussion board eCampus)	July 14	3%
Final Abstract and Poster in <a href="#">ForagerOne</a>	July 25	5%
Preparation and Presentation of Research at Mountainlair	July 27	25%
<b>Total Grade</b>		<b>100%</b>

### Assignments & Responsibilities:

*Pre- & Post- Surveys on Research Experience:* Pre-surveys will be given to participants to evaluate their previous research and mentoring experience prior to participation in the SURE experience. Post-surveys will include program evaluations and space for the participant to provide analysis of the program.

[Biweekly Research Reports:](#) Reporting aids SURE and the faculty mentor in monitoring progress in research and will help you reflect on your progress and development throughout your SURE experience. On a biweekly basis, the SURE participant will submit a report of research hours and research-oriented activities. The report submission (due biweekly by 11:59 pm on Sundays) will trigger an automatic email to the faculty research mentor. The mentor is required to review the report and reply to the email only if there is a disagreement with confirmation of hours/activities (due the following Wednesday by 4 pm). SURE participants should keep emailed copies of each biweekly report as evidence of submission and for re-forwarding to the faculty mentor for confirmation (if needed).

For input into the biweekly report, SURE participants should keep track of hours devoted to research and their research activities. The report requires input of (i) daily research hours, (ii) brief list of research-oriented activities, and, in journal form, identification of those activities that (iii) took the most time and (iv) research plans for the next biweekly period. Orientation day and workshop hours count for research hours and should be recorded.

Research activities include: resolving unexpected problems in research, planning for the next step in research with the mentor or alone, helping other group members with their project/research, researching and reading literature related to the research project, working on research assignments (research timeline, oral presentation, graphs or artifacts for research presentations, etc.), attending group meetings, discussing research with the faculty mentor or with secondary mentors (or others), performing research alone or under the guidance of a mentor, watching a mentor as the mentor explains and conducts research, designing experiments on own or with guidance from a mentor, preparing a presentation for a group meeting and presenting it, troubleshooting, reading laboratory protocols, obtaining training to further the research, etc. These are just some suggestions as to activities considered to be research and that should be included and detailed on biweekly reports.

*Project:* The project will help participants focus on how to set and achieve research goals. Participants will **(1)** complete an assignment in which they will write an abstract based on their research. The rough draft will be submitted to ForagerOne and in eCampus, for required review by peers. Participants will revise their abstracts based on peer feedback found on the eCampus discussion board. Participants will then **(2)** submit the final abstract and poster graphic to ForagerOne for the symposium presentation. The student is responsible for preparing and presenting a printed version of the poster at the symposium.

*Workshops, Speakers, and Networking Events:* There will be a series of events when speakers will be presenting on research and careers in academic, industry, and government sectors. There will also be a series of workshops (e.g., prestigious scholarships, preparing your research for presentation) and networking events. Participants are required to attend at least eight (8) of the workshops, speakers, and networking events. Workshops will be available either in person or through zoom and it is the student's responsibility to check the event schedule for this determination. Workshop hours count for research hours and should be recorded.

*Research Presentation:* Participants are required to prepare and present their research for an in-person presentation at the Summer Undergraduate Research Symposium on Thursday July 27, 2023. Participants need to effectively present their research findings in poster form. More information on the symposium will be given during the July workshop on preparing a research presentation. At the symposium, participants will be judged on the effectiveness of both their presentation visuals and their ability to communicate and explain their research. Participants are encouraged to invite family, friends, faculty, graduate students, and postdoctoral mentors to the symposium.

**SURE Philosophy:** Scholarly activities (e.g., research and creative work) are unique educational experiences that allow undergraduates to apply what they learn in class to projects that do not have a defined answer or endpoint. As such these opportunities are not accompanied by defined research hours (weekly or in totality) to bring a project to completion. These activities are available to all participants with the interest and drive to seek them out and engage in them. However, the one-on-one placement opportunities offered by SURE cannot be afforded to all participants as this would undermine the one-on-one nature of the experience. We expect undergraduate researchers to

think of these placements as long-term commitments. Undergraduate researchers gain more from the research experience in terms of moving their education forward (e.g., disciplinary training in research methods, equipment and instrumentation, and networking and mentoring) than the faculty member or research group. Initially, the experience is front-loaded with training and initiation to the research environment and the undergraduate researcher is dependent on the faculty mentor and secondary mentors (graduate student, post-doc, advanced undergraduate students). As the training moves forward and the research experience proceeds, the undergraduate is expected to contribute in a meaningful way that moves the undergraduate researcher toward independence and a contribution that goes beyond research training. Undergraduate researchers get as much from the experience as they put into the experience. A minimum effort will result in minimal output and a less than optimal experience for both the undergraduate and the faculty mentor and mentor's research group.

There is no set maximum number of research hours for an experience like this, but for administrative purposes and for accounting of effort related to the SURE experience, the required minimum number of research hours is 320 hours (or an average of 40 hours per week for 8 weeks). Orientation day and workshop hours count for research hours. However, completion of the assignments should not be counted towards research hours. Undergraduate researchers are encouraged and may be expected to research more than the minimum hours, but not to the detriment of their health or overall social well-being. An undergraduate researcher who is not actively moving toward research independence may be terminated from the program. Actions leading to termination include not showing up for weekly and agreed upon research hours, lack of effort and general lack of interest in the research and overall SURE experience.

**Academic Integrity:** The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, instructors will enforce rigorous standards of academic integrity in all aspects and assignments of their courses. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the West Virginia University [Academic Standards Policy](http://catalog.wvu.edu/undergraduate/coursecreditstermsclassification) (<http://catalog.wvu.edu/undergraduate/coursecreditstermsclassification>). Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see your instructor before the assignment is due to discuss the matter.

**Inclusivity Statement:** The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect, and inclusion. If you are a person with a disability and anticipate needing any type of accommodation in order to participate in your classes, please advise your instructors and make appropriate arrangements with [the Office of Accessibility Services](https://accessibilityservices.wvu.edu/). (<https://accessibilityservices.wvu.edu/>). More information is available at the [Division of Diversity, Equity, and Inclusion](https://diversity.wvu.edu/) (<https://diversity.wvu.edu/>) as well.

**Disclaimer:** The schedule, policies, and assignments within this syllabus are subject to change in the event of extenuating circumstances. We will advise students of these changes as soon as possible.

**Mentor-mentee conflicts:** If you are struggling in any way with your mentor(s) or research responsibilities please reach out to your GTA and Amy Hessel and Rita Rio as soon as possible.

**Statement on the use of Artificial Intelligence (AI)\*.** AI is a term that applies to a wide variety of electronic tools including ChatGPT. Students are expected to ask the research mentor/HONR 497 instructors if AI tools are acceptable relative to their research and class assignments, respectively, before they use them. Unauthorized use of AI tools may result in academic dishonesty charges. \* obtained from Discussion on ChatGPT, WVU Eberly College Discussion, May 10, 2023.