

Tentative Course Outline and Schedule
ALS 4932: Mentoring the Scientific Process
Fall 2018 (2 credits)

Wednesdays 4:20 to 6 PM at Westwood Middle School

INSTRUCTORS:

Bobbi Langkamp-Henken, Ph.D.
 Food Science and Human Nutrition Department

FSHN Building, Room 309
 Cell Phone: (352) 642-3669
 Email: henken@ufl.edu

Office Hours: Tuesdays 2:30 to 4:00 p.m. (walk-in) and Wednesdays 1:30 p.m. to 3:00 p.m. (by appt. – call or email Marianne at (352) 294-3734; marianne@ufl.edu to schedule)

Sara M. Charbonnet, M.Ed., N.B.C.T, Guest lecturer and contact for middle-school experiences
 School Board of Alachua County
 at Westwood Middle School
 3215 NW 15th Avenue
 Gainesville, FL 32605

Cell Phone: (352)870-4165
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 Phone: (352) 955-6718 ext. 264

COURSE ASSISTANTS:

Camille Haynes camz.23@ufl.edu (954)918-5086	Tara Brown taragrabenbrown@ufl.edu (772)318-9936
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COURSE DESCRIPTION:

Students who have a background in science will be exposed to the research process. Students will demonstrate their understanding of the research process by designing and completing an individual science research project and mentoring underserved middle-school students who are working on a science fair project.

Prerequisites: 1 year of biology, 1 year of general chemistry, and a signed student participation contract.

COURSE OBJECTIVES - At the conclusion of this course, the student will be able to:

1. Apply knowledge of the research process to design, complete, present and critique research projects.
2. Demonstrate the skills to reach out to underserved middle-school students and interest them in science.

TEXT AND MATERIALS:

Required: Science Fair Rules – [online] <http://www.societyforscience.org/isef/rulesandguidelines>
 Charbonnet class webpage – [online] <https://sites.google.com/a/gm.sbac.edu/mrs-charbonnet-s-science/home>
 Daily access to E-Learning on Canvas - <http://elearning.ufl.edu/>

STUDENT EVALUATION AND ATTENDANCE:

Students will be evaluated on assignments, presentations, class participation, and community service hours/log. Attendance is required for all classes and consistent with university policies that can be found at:
<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

ONLINE COURSE EVALUATION PROCESS

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.

ASSIGNMENTS: In-class and out-of-class work will be assigned and graded. Activities include designing, completing, and presenting an individual research project. As part of the course requirements, students will also be asked to apply what they have learned in class to help middle-school science students with a science fair project. All students will be asked to maintain time/activity logs for this community service activity. Students will be asked to complete a minimum of 20 hours of course-related community service. These activities will be done at Westwood Middle School located at 3215 NW 15th Ave. This school is on the corner of NW 34th Street and 1 block south of NW 16th Avenue.

GRADING:

Mentor (i.e., undergrad) Research Project	
Team/Individual Project Design Presentation (PowerPoint)	20
Completed Science Fair Project Forms	20
Written report - a 1-page review of literature (see “How to Write a Report and Report Rubric” handed out in class) and 3 references in a bibliography.	30
Logbook	10
Completed Project Poster Presentation (Display board)	20
Meet My Mentee (i.e., 6 th grader, first names only) PowerPoint Presentation - email to Dr. Henken the day prior	20
My Presentation of My Mentee’s Poster (Display board or if not finished a PowerPoint presentation)	20
Community Service Learning Time/ Activity Logs (20 hour minimum)	200*
Final Reflection Essay	20
Class Attendance	140

*Additional time can be earned by

- completing a project notebook similar to that required of your mentee. The only exception is that only a 1-page written report with 3 references is required (60 minutes).
- taking quizzes (15 minutes for 100%).
- completing worksheets.
- helping students on Wednesdays after school (record on time sheet).
- participating in class and earning Science Fair Bucks (5 to 10 minutes).
- participating in the Mentee Display Board Workshop (up to 90 minutes)
- helping in Ms. Charbonnet’s classroom

A= 450 to 500 points (90% to 100%); B+= 425 to 449 points (85% to < 90%); B= 400 to 424 points (80% to < 85%); C+= 375 to 399 points (75% to < 80%); C= 350 to 374 points (70% to < 75%); D+=325 to 349 points (65% to 70%); D= 300 to 324 points (60% to <65%); E=<275 points (< 60%). For information on current UF policies for assigning grade points, see

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

DATE**TOPIC**

Aug. 22

Introductions

Discuss syllabus and course objectives (Dr. H.)

4:20PM-6PM

The mentoring process (Ms. C.)

Rm 101, AFPL

Negotiating Westwood – how to check into school (Ms. C.)

Volunteer application: <https://apps.raptortech.com/Apply/MTU3OmVuLVVT>

Nametags

Dress code

Discuss cultural differences (Ms. C.)

Aug. 29

Class pictures

Icebreakers for mentors

4:20PM-8PM

How to complete a science project successfully (Ms. C.)

Westwood

Mentoring middle-school science students - survival skills (Ms. Charbonnet)

Carpooling discussion

View example poster boards

Discuss science fair forms and rules – basic information (Ms. C.)

Tour of Westwood Middle School and scavenger hunt

Discuss PowerPoint presentation of project designs for research projects (Dr. H)

Group presentations on ideas for science fair topic areas (see page 5 for list of topic areas)

Dinner provided by instructors

Assignments:

- Review science fair rules and be prepared to answer quiz questions and discuss at the next class
Rules and Guidelines: <http://www.societyforscience.org/isef/rulesandguidelines>
- In teams or individually plan a research project (at the 6th grade level, see Westwood Science Fair Project Guide)
- Complete the science fair rules tutorial and use the Rules Wizard for your project by next class
Tutorial: <https://apps2.societyforscience.org/wizard/index.asp>
- Create PowerPoint presentation of project design to be presented **September 5th. Upload to Canvas by noon on September 5th.**

Sept. 4	Kids in the Woods
Sept. 5 4:20PM-6PM Westwood	<p>Quiz 1 on science fair forms and rules Stickman the Middle Schooler What science fair forms are needed for this project? Case scenarios. Presentation of project design for research project to TA group Due: PowerPoint presentations of team/individual project designs to class. Upload to Canvas by noon today. If you have presented your study to the class, you may begin your experiment. Keep a logbook. Make sure your science fair forms are completed before you start your project. Mentee assignments (Ms. C.) Prepare parent letters Icebreakers for mentees</p>
Sept. 12 4:20PM-6PM	<p>Presentations of team/individual project designs to class Discuss “lesson plans” for planning what you hope to accomplish with your mentee at each visit Discuss mentee issues Assignment:</p> <ul style="list-style-type: none"> • Complete science fair forms (1, 1A, 1B, Research Plan and others as needed). Print out and bring to class. Due September 26th
Sept. 19 4:20PM-6PM	<p>Presentations of team/individual research project designs to class What do you do with your data - graphing and analyzing your data (Dr. H) Discuss mentee issues Demonstration on how to make graphs and prepare a bibliography Assignments:</p> <ul style="list-style-type: none"> • Worksheet on graphing and simple statistics. Due September 26th • Please read the journal article distributed in class and complete the worksheet. We will discuss in class next week. Due September 26th • Complete 1-page review of literature and 3 references. Due October 17th • Create a small science fair display board poster of completed project Due October 24th
Sept. 26 4:20PM-6PM	<p>Mentors’ science fair forms due – please check over as a group. Discuss mentee presentations and mentee issues Discussion of journal article and worksheet. Discussion of what makes a good clinical study – CONSORT Checklist Quiz 2 on writing a hypothesis and graphing data Due: Worksheet on graphing and simple statistics and Completed science fair forms Assignment:</p> <ul style="list-style-type: none"> • Prepare mentee presentation for next class. Upload your presentation to Canvas by noon October 3rd.
Oct. 3 4:20PM-6PM	<p>Review judging criteria for science fair projects Due: Mentee presentations (Upload to Canvas by noon today) Discuss mentee issues Quiz 3 on upcoming dates and events Assignment:</p> <ul style="list-style-type: none"> • Begin work on your display board and log book for your team/individual research project (Due October 24th)
Oct. 10 3:30PM-5PM	<p>Kids in the Woods After school science project workshop (Note: the workshop counts toward community service hours) Mentee progress check by appointment with Ms. Charbonnet</p>
Oct. 11	Kids in the Woods

- Oct. 17
4:20PM-6PM
Mentee presentations
Mentee progress check
Discuss mentee issues
Correct science fair forms from 6th grade classes
Due: 1 page report and bibliography
- Oct. 19
Kids off – public schools are not in session
- Oct. 24
4:20PM-6PM
Judging of mentors' team/individual research projects
Due: Bring your display board and logbook
Optional project notebook due
Discuss Mentee Display Board Workshop that we will have on November 8th
- Oct. 31
4:20PM-6PM
Class discussion on issues related to mentee and projects.
Assignments:
- Help mentee finish display board
 - Class reflection essay (see handout) **Due December 5th**
- Nov. 2
Kids off – public schools are not in session
- Nov. 7
3:30PM-5PM
Display Board Workshop (Note: the workshop counts toward community service hours)
Optional mentee progress check by appointment with Ms. Charbonnet
- Nov. 12
Kids off – public schools are not in session
- Nov. 14
4:20PM-6PM
Kids in the Woods
Mentee progress checks and mentor/mentee work time.
- Nov. 15
Kids in the Woods
- Nov. 19 – 23
Nov. 21
Kids off all week – public schools are not in session
NO CLASS – UF OFF FOR THANKSGIVING HOLIDAY
- Nov. 28
4:20PM-6PM
Presentation of mentee's project and display board
Quiz 4 on what you learned in class
Plan potluck dinner
Assignment:
- Class reflection essay (**Due December 5th**)
- Dec. 5
4:20PM-6PM
Final Class:
Mentee Project and Display Board Presentations or 1 PowerPoint slide in poster format.
Note: If your mentee does not have a partial or completed display board for their project, then you will need to do a PowerPoint presentation of the project. See <https://print.at.ufl.edu/computing-lab-services/poster-samples-templates/> for templates. Note: you do not have to print it! You can project it to the class.
Due: Class reflection essay
Potluck dinner
Complete course evaluations
- Dec. 12
3:30PM-5PM
Help set up for science fair for community-service learning hours.
- Dec. 13
Westwood Middle School Science Fair – serve as a judge (9 a.m to ~ 1 p.m.). This time counts toward your community-service learning hours.

6th Grade Science Fair Due Dates 2018-2019

Topic Animal Sciences, Behavioral & Social, Biomedical & Health, Cellular/ Molecular Biology & Biochemistry, Chemistry, Earth & Environmental, Engineering, Environmental Engineering, Intelligent Machines Robotics & Systems Software, Mathematics & Computational Science, Microbiology, Physics & Astronomy, Plant Science.	Aug. 30
Title and Purpose Title: In the form of a question (How does X Affect Y?) Submit for approval. Purpose: What will you learn and why is this topic relevant to the scientific community?	Sept. 6
References/Bibliography Five sources of information about your project. List them using the correct bibliographic format. Include at least one book and one Internet source.	Sept. 20
Review of Literature An original, three-page summary of all you have learned from the sources of information above. This paper must be written in your own words.	Sept. 20
Hypothesis A possible answer or solution to your question, based on your research above. Should be written in an "If...then...because..." form.	Sept. 27
Materials and Procedure Materials: A list of the items necessary for you to perform your experiment. Procedures: A step by step description of your experiment from beginning to end. Include a list of your independent variable, dependent variable, constants, and control.	Oct. 4
Experiment / Logbook Check Begin collecting preliminary results. Bring Logbook to class for the next 4 weeks.	Oct. 11
Table, Chart, or Graph – Set up Assemble all data into appropriate tables, charts, and/or graphs	Oct. 18
Analysis and Conclusion Submit a one-page summary of the entire experiment. Answer the following questions: Was the original hypothesis supported or rejected? Why or why not? Was your purpose achieved? Why or why not? Is additional research needed?	Nov. 1
Abstract A summary of your entire project. It should be no more than 250 words long and include the purpose, procedure, data, conclusion, and applications. Use the State abstract form .	Nov. 8
Final Bibliography A complete list of all informational resources used in this project.	Nov. 8
Rough Draft of Project Notebook Assemble all the above steps, with a title page, table of contents, etc. and submit for editing	Nov. 15
Final Draft of Project Notebook Assemble all steps in final form, ink or typed.	Nov. 29
Display Board Display boards should be neat and organized, with all steps placed in the proper location. Projects will be presented in class.	Dec. 6
Westwood Middle School Science Fair Parent judges and volunteers needed!!!	Dec. 13
Alachua Region Science Fair at Santa Fe College	TBA
State Science and Engineering Fair of Florida in Lakeland	Mar. 26-28

OTHER INFORMATION:

Grades and Grade Points: For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Absences and Make-Up Work: Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

Academic Honesty Policy: UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Software Use: All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Campus Resources:

U Matter, We Care: If you or a friend is in distress, please contact umatter@ufl.edu or 352-392-1575 so that a team member can reach out to the student.

Counseling & Wellness Center: *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575*, and the University Police Department: 352-392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS): Student Health Care Center, 352-392-1161.

University Police Department: 352-392-1111 (or 9-1-1 for emergencies).

E-learning technical support: 352-392-4357 (select option 2) or email to Learning-support@ufl.edu.

<https://lss.at.ufl.edu/help.shtml>.

Career Resource Center: Reitz Union, 352-392-1601. Career assistance and counseling. <http://www.crc.ufl.edu/>

Library Support: <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

Services for Students with Disabilities: Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

University of Florida Complaints Policy: The University of Florida believes strongly in the ability of students to express concerns regarding their experiences at the University. The University encourages its students who wish to file a written complaint to submit that complaint directly to the department that manages that policy. A student who is unsure as to the official responsible for handling his or her particular complaint may contact the Ombuds office or the Dean of Students Office. For complaints that are not satisfactorily resolved at the department level or which seem to be broader than one department, students are encouraged to submit those complaints to one of the following locations: Ombuds: <http://www.ombuds.ufl.edu/>, 31 Tigert Hall, 352-392-1308. The purpose of the Ombuds office is to assist students in resolving problems and conflicts that arise in the course of interacting with the University of Florida. By considering problems in an unbiased way, the Ombuds works to achieve a fair resolution and works to protect the rights of all parties involved. Dean of Students Office: <http://www.dso.ufl.edu/>, 202 Peabody Hall, 352-392-1261. The Dean of Students Office works with students, faculty, and families to address a broad range of complaints either through directly assisting the student involved to resolve the issue, working with the student to contact the appropriate personnel, or referring the student to resources or offices that can directly address the issue. Follow up is provided to the student until the situation is resolved. Additionally, the University of Florida regulations provide a procedure for filing a formal grievance in Regulation 4.012: <http://regulations.ufl.edu/regulations/uf-4-student-affairs/>