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**Form 2: Bioengineering Undergraduate Departmental Honors Syllabus**

*Instructions for Research Advisors****:***

*Below is a boiler-plate syllabus to be completed by the research advisor prior to his or her undergraduate student’s enrollment into Bioengineering Undergraduate Departmental Honors Program. This syllabus must accompany (attach to) the Bioengineering Undergraduate Departmental Honors Agreement (Form 1). Both documents (Syllabus and Honors Agreement) should be reviewed in person with the student prior to signing and submission to the Honors Committee for consideration of admission to the Departmental Honors Program.*

**BIOE H4910 – Honors Mentored in Bioengineering**

**Offered as Variable Credit Hours: 3 hours of laboratory work per week per credit**

**XXXX Semester 20XX**

**RESEARCH ADVISOR:** Dr. John Doe, Assistant Professor of Bioengineering

Office: XXX Rhodes Engineering Research Center;
Office phone: 864-656-XXXX; Email: johndoe@clemson.edu

**OFFICE HOURS**:

By appointment

**COURSE DESCRIPTION:**

Mentored research training for undergraduate students working with a faculty research advisor including literature review, experimental design, research documentation, and presentation of results. This may be repeated for a maximum of 6 credits. Honors students must take 6 credits under a single research advisor and write an honors thesis.

**PREREQUISITES:**

Consent of instructor.

**COURSE LEARNING OBJECTIVES:**

Students will be able to:

* Perform literature searches on biomedical engineering topics and identify the current state of knowledge and gaps for continued research.
* Design and conduct experimental procedures.
* Document experimentation in laboratory notebooks.
* Disseminate research findings in an oral and written format.

**PROPOSED GRADING:**

Grades: A= 90-100%; B= 80-89%; C= 70-79%; D = 60-69%; F = 59% and lower

**SUGGESTED EVALUATION TOPICS**

**BioE H4910 – 1st Semester:**

Quiz on safety / laboratory skills training: 10%

Bi-weekly written goals / progress reports: 20%

Adequately maintains laboratory notebook: 10%

Actively contributes to weekly lab group meetings: 10%

End of semester poster / oral presentation: 20%

End of semester research summary / report: 30%

**BioE H4910 – 2nd Semester:**

Quiz on safety / laboratory skills training: 10%

Bi-weekly written goals / progress reports: 20%

Adequately maintains laboratory notebook: 10%

Actively contributes to weekly lab group meetings: 10%

End of semester poster / oral research presentation: 20%

Thesis Document or End of semester research summary / report: 30%

**BioE H4910 – 3rd / Subsequent Semester(s) *(if needed)*:**

Quiz on safety / laboratory skills training: 10%

Bi-weekly written goals / progress reports: 20%

Adequately maintains laboratory notebook: 10%

Actively contributes to weekly lab group meetings: 10%

End of semester poster / oral research presentation: 20%

Thesis Document 30%

**Note:** At the end of their third semester, Honors students are required to submit an honors thesis written in accordance with the Honors Policy Guidelines and formatting instructions in addition to providing an oral presentation during a departmental research seminar or research day (unless otherwise stipulated by the departmental undergraduate honors policy guidelines).

**HONOR CODE / ACADEMIC INTEGRIGY STATEMENT**

“As members of the Clemson University community, we have inherited Thomas Green Clemson’s vision of this institution as a ‘high seminary of learning.’ Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form.”

The Honor Code for the College of Engineering and Science/Clemson University will be applied for tests, projects, and reports (http://www.clemson.edu/ces/current-students/honor-code.html). Quizzes, progress reports, posters and oral presentations are to be an individual effort unless specified by the research advisor.

# CLEMSON UNIVERSITY TITLE IX (SEXUAL HARASSAMENT) STATEMENT

Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veteran’s status, genetic information or protected activity (e.g., opposition to prohibited discrimination or participation in any complaint process, etc.) in employment, educational programs and activities, admissions and financial aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972. This policy is located at http://www.clemson.edu/campus-life/campus-services/access/title-ix/. Mr. Jerry Knighton is the Clemson University Title IX Coordinator. He also is the Director of Access and Equity. His office is located at 111 Holtzendorff Hall, 864.656.3181 (voice) or 864.565.0899 (TDD).

**SUGGESTED ORAL PRESENTATION GRADING RUBRIC**

The oral presentations will be evaluated as follows:

Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Research Advisor: \_\_\_\_\_\_\_\_ \_\_\_\_

Seminar Title: Seminar Date:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation Category** | **Poor (0)** | **Good (1)** | **Excellent (2)** | **Score****(0-2)** |
| **Organization** | Disorganized; hard to follow; wandered from topic | Organized and logical sequence, but did not flow well | Well-organized, logical, easy to follow from presentation to hands-on activity |  |
| **Content** | Inadequate details to support presentation | Few missing details or confusing details for supporting presentation | Adequate and properly presented details to support presentation |  |
| Many terms missing or misused | A few terms missing or misused | Proper use of terminology |  |
| **Slides &/or Handouts**  | Slides or handouts difficult to read and/or confusing; too many or too few slides | Slides or handouts somewhat confusing; too much or too little text  | Effective and clear slides and handouts |  |
| **Conceptual Level & Reasoning**  | Missing, incorrect, or inconsistent conclusions | Weak/poorly supported conclusions | Well-stated, well-justified conclusions |  |
| Missing, incorrect, or inconsistent recommendations | Weak/poorly supported recommendations | Well-stated, well-justified recommendations |  |
| Much redundancy; poor flow | Some redundancy and/or tangents | Concise & flows logically |  |
| **Delivery**  | Distracting gestures; did not maintain attention; design did not work well with presentation | Reasonably maintained attention, effective presentation of design | Very effective communication throughout presentation |  |
| Not well rehearsed; poor flow of presentation | Some flow issues with presentation | Well-rehearsed and presentation flowed well |  |
| Never makes eye contact with audience or not audible to audience | Sometimes makes eye contact with audience and is audible | Often makes eye contact with audience and speaker is easily heard. |  |
|  |  |  | **Total:** |  |

Additional Comments:

**SUGGESTED POSTER PRESENTATION GRADING RUBRIC**

The poster presentations will be evaluated as follows:

Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Research Advisor: \_\_\_\_\_\_\_\_ \_\_\_\_

Seminar Title: Seminar Date:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Evaluation Category** | **Poor (0)** | **Good (1)** | **Excellent (2)** | **Scores****(0-2)** |
| **Design and Layout**  | Disorganized; hard to follow; wandered from topic | Good layout and logical sequence, but did not flow well | Well-organized, logical, clean design, that is easy to follow.  |  |
| No uniformity of style | Some uniform theme, overall style was inconsistent | Style was consistent throughout poster |  |
| **Content**  | Inadequate details to support presentation | Few missing details or confusing details for supporting presentation | Adequate and properly presented details to support presentation |  |
| Many terms missing or misused | A few terms missing or misused | Proper use of terminology |  |
| Much redundancy; poor flow | Some redundancy and/or tangents | Concise & flows logically |  |
| Missing, incorrect, or inconsistent conclusions | Weak/poorly supported conclusions | Well-stated, well-justified conclusions |  |
| **Visuals (Graphics and Text)**  | Confusing and distracting graphics | Poorly labeled or somewhat confusing; graphs.  | Clearly labeled graphs could stand on their own. No distracting graphics. |  |
| Text is difficult to read and understand | Text is overly verbose or lacking in content. | Text is easy to read from a distance, brief, and concise. |  |
| **Presentation**  | Distracting gestures; did not maintain attention; design did not work well with presentation | Reasonably maintained attention, effective presentation of design | Very effective communication throughout presentation |  |
| Not well rehearsed; poor flow of presentation | Some flow issues with presentation | Well-rehearsed and presentation flowed well |  |
|  |  |  | **Total:** |  |

Additional Comments: