BME 300 – Writing in Biomedical Engineering

Course Description: All degree candidates must demonstrate skill in written English at a level acceptable for engineering majors. All Biomedical Engineering students must complete the writing course BME 300 concurrently with a selected BME 300-level course. The quality of writing in technical reports submitted for the course is evaluated, and students whose writing does not meet the required standard are referred for remedial help. Satisfactory writing warrants an S grade for BME 300, thereby satisfying the requirement.

Prerequisites: WRT 102; U2, U3 or U4 standing; BME major

Co-requisites: Any 300- or 400-level BME course, or permission of the Undergraduate Program Director.

BME 300 Outcomes (ABET)

3 an ability to communicate effectively with a range of audiences

4 an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

7 an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Outcome Measures

The Report: This report will be at least 10 pages in length, double spaced, with references on a topic agreed upon by the instructor and student. Two forms of this report are acceptable: Critical Analysis of one study; Synopsis of at least 3 articles to describe a key aspect of the field. A draft of the report is due at mid-semester. The final report will be due by the last day of regular classes. A copy of the report will be sent to the undergraduate program director. The grammar and writing skill will address (3), the report content will address (4), the student's demonstrated depth of exploring other literature will address (7), and through both the review of literature and process of referencing the literature, (4) will be addressed.

A paper based on *Critical Analysis*, will include background pertinent to the study, methodology or approach taken, will identify key data and supportive control data, and will give a summary of the discussion. Finally, the student will provide their analysis of the study's conclusions.

A paper based on a *Synopsis* will provide comparison / contrast of various views within a field. It will include a summary of each view, outline at least 2 points of direct comparison between studies, critical analysis of these points of comparison, and a summary of the student's conclusions regarding these points of view as it pertains to the field as a whole.

Grading:

For each of 6 items shown in the grading rubric, the instructor will assign a numerical score of 1 through 4 where 1 is unsatisfactory, 3 is satisfactory and 4 is exemplary. At least 15 points need to be obtained to pass the course. The grading rubric is attached.

Student: _____   PI: _____   Date: _____

	Unsatisfactory 1	Developing 2	Satisfactory 3	Exemplary 4	Points
Specific Aims of the Critical Analysis / Synopsis	Aims are **missing**	Aims are **trivial, and/or non-specific**	Aims are **somewhat original and specific**	Aims are **original and specific**	____
Research Gathering / Information	Collects **minimal** background information only about the specific paper(s). **No** information on related topics	Collects **adequate** information about the specific paper(s) but **not much** on related ones	Collects **adequate** information about specific paper(s) **as well as** the related ones	Delivers **breadth and depth** of information, follows leads all the way, and comes up with exhaustive information within the space constraints	____
Discussion	Offers **simplistic**, undeveloped, or cryptic support for the ideas. Inappropriate or off-topic generalizations, faulty assumptions, errors of fact	Offers **somewhat obvious** support that may be too broad. Details are too general, not interpreted, irrelevant to the objective, or inappropriately repetitive	Offers **solid but less original** reasoning. Assumptions are not always recognized or made explicit. Contains some appropriate details or examples	**Substantial, logical, & concrete development** of the synopsis. Assumptions are made explicit. Details are convincingly interpreted	____
Organization	**Little evidence** of organization or any sense of wholeness & completeness.	**Little completeness & wholeness**, though organization was **attempted**	Organization **supports objective and purpose**. Transitions are mostly appropriate. Sequence of paragraphs /ideas could be improved	**Fully supports** objective & purpose. Sequence of ideas is effective. Transitions are effective	____
Style	**Limited or inappropriate** vocabulary for the intended audience & purpose. **Does not** follow the rules of standard English.	**Limited & predictable** vocabulary, perhaps not appropriate for intended audience & purpose. **Generally does not** follow the rules of standard English.	Uses **effective** language **& appropriate** word choices for intended audience & purpose. **Generally** follows rules for standard English.	Uses **effective** language; makes engaging, appropriate word choices for audience & purpose. **Consistently** follows the rules of standard English.	____
Use of References	**Very small** number of references. **Neglects** important references. Possibly uses source material without acknowledgement (plagiarism)	**Limited** number of references. Uses **relevant** sources but **lacks** in variety of sources and/or the combination of sources. Style of referencing may be inconsistent	**Appropriate** number of references. Uses sources to support, extend, and inform. Conforms to accepted styles and format.	**Large** number of references. Uses sources to support, extend, and inform, but not substitute writer's own development of idea. Combines material from a variety of authoritative sources.	____

Total Points:

Grading Scale:

1-14:   *Unsatisfactory*
15-24:   *Satisfactory*