Civil and Environmental Engineering Department
Homework Format Standard: 2020-21

This document is provided as a guide to the format/style that is expected and required for all homework assignments submitted in CEE courses. The format described below follows standard engineering practice and is what will be expected from you when you enter the profession. By requiring this format across the CEE curriculum, it will become second nature to you and your ability to communicate technical solutions will meet professional standards well before you graduate.

1. All submitted assignments should include at the top of the first page the statement "I pledge to the ODU Honor Code" followed by your signature. The ODU Honor Code is in force at all time. It is an honor code violation to copy the work of others and submit it as your work.

2. The homework solutions that you submit should stand on their own (i.e. anyone reviewing your submittal should not need any other source to understand what you are doing). Your solution should begin with a statement of the problem and then be followed by a list of the given data, and then statements of any assumptions, estimations, or approximations that need to be made in solving the problem. The engineering principle or solution technique you use (if there is a single identifiable one) should be stated early in the solution. This information is then followed by calculations that often occur in a series of steps with each step typically providing a result that feeds into a following step. Each solution step should be clearly identified, and this is typically accomplished with headings that are underlined. Ultimately what you submit should be a problem solution that consists of a well-organized series of steps that follow a natural progression leading to the final answer. Your instructor may give you examples of this format to further illustrate what is expected.

3. Always put a date on the first page of your submittals (typically near your name). This should include the month, day, and year.

4. Your answers should stand out so that that they are easily found. Underline, double underline, or put a box around the answer(s) and remember to include the appropriate units. Another common technique used by engineers is to have an arrow from the right margin point to the answer. ←

5. When using equations with variables represented by letters (e.g. Q, μ), identify what each variable (letter or symbol) in the equation stands for the first time it appears; e.g. $v = Q/A$; v is the velocity, Q is the volumetric flow rate, and A is the area).

6. Make sure to show the units that are associated with the numbers you are using in your calculations. Pay particular attention to make sure your final answer has the correct units. Remember units give meaning to the numbers.

7. You should never have a naked decimal point. If a number contains a decimal point there must be a number to the left and the right of the decimal point. For example, if you were reporting the number two-tenths it should be written as 0.2 and not .2 .

8. Your final answer must also contain the correct number of significant digits (also referred to as significant figures). The number of significant digits indicates the precision of the number you are reporting. In most civil engineering calculations, the number of significant digits is four or less. Surveying is one area where a greater number of significant digits is often appropriate.

9. Your solution of an engineering problem should be neat and well space so that the individual steps can be easily followed. For problems with engineering calculations, engineering paper should be used. When drawing a Mohr's circle, a compass must be used.

10. Use a straight edge to draw lines and a French curve, flexible curve, or other curved objects when drawing curves. Where a circle is required (e.g., Mohr's circle analysis) a compass should be used. In place of hand drawings, computer programs with graphics capabilities may be used.

11. All pages must be numbered typically in one (**not both**) of the formats used on this handout (see upper right-hand corner and lower right-hand corner). The format at the top is the style used when you are using engineering paper.

12. When graphs (usually called figures) are included, each figure should be numbered and accompanied by a figure title that identifies what the figure is (e.g., Figure 1. Relationship Between Flow Rate and Head Loss). Figure titles should be placed below the figures. Axis titles identifying the plotted variables and their units should always be included with each graph. If a graph is plotted in landscape mode on paper (i.e., turned sideways), the bottom of the graph should be on the right-hand side of the paper when viewed normally. Hand-drawn figures must always be on engineering or graph paper.

13. When a table is included in your work, a table title should be assigned (e.g. Table 1. Student Test Scores on Mathematics Placement Tests) and be directly above the table.

14. Your homework should be completed in a timely manner. The deadline that is set should be adhered to. If you are late with a submission, either points will be deducted or it will not be accepted (each instructor sets this policy). If an answer key is posted before you hand in your homework solution, it's too late to hand in your assignment.

15. You are encouraged to utilize computer software packages (or write your own) that will assist you in completing homework assignments. If you use word processing software, you should master the equation writing feature in the software and use it where you would normally be writing out equations in your solution. Anytime you conduct calculations within a computer program and import the results to your homework, you need to explain where these data came from and how they were calculated; e.g. "a linear regression analysis of the stress-strain data for the steel specimen used in Laboratory Exercise #6 was conducted using Excel." Tables in solutions should be created with the software package or in a spreadsheet and copied into the assignment.

16. If an assignment submittal is delayed due to sickness, or some other legitimate reason, you should immediately contact your instructor. Don't wait until the next regularly scheduled class to inform the instructor of your situation.

17. When writing text, write in a technical writing style, use proper punctuation, capitalization, spelling, and grammar, and do not use jargon or slang.

18. The emphasis in having you complete homework assignments is for you to **learn** the proper technical analysis and design techniques through practice and to hone the skill of being able to communicate a technical solution using the proper engineering format.