# CIS 236 – Programming in C

| Program: | Week 02 |
|----------|---------|
| Points: | 20 |
| Chapters: | 3 |

## Description

Write a program that computes the area and the circumference of a circle. Ask the user for the circle's radius (in inches). Display the output with appropriate labels, and to two decimal places.

## Learning Objectives

In this assignment, you will practice:
- Implementing an algorithm in C
- Reading input from stdin
- Performing arithmetic calculations in C
- Displaying formatted output to stdout

## Requirements

Use the required variables as indicated in the section below.

The user must be prompted appropriately.

The area and circumference must be displayed with 2 places after the decimal. All output must include identifying information.

## Required Variables

You must use at least these four variables:

1. A variable to store the radius of a circle. This variable will not store values after a decimal.
2. A variable to store the area of a circle. This variable may store values after a decimal.
3. A variable to store the circumference of a circle. This variable may store values after a decimal.
4. A variable that stores the value of pi as 3.14. This variable must be initialized at the time of declaration.

You may use other variables as needed.

## Sample Run 1

```
Enter a value for the radius in inches: 7
The area of a circle with radius 7 is 153.94
The circumference of a circle with radius 7 is 43.982
```

## Sample Run 2

```
Enter a value for the radius in inches: 10
The area of a circle with radius 10 is 314.16
The circumference of a circle with radius 10 is 62.83
```

## Requirements for Full Credit on This Project

**SUBMIT YOUR OWN WORK** – Plagiarism is not tolerated in this course. Please review the section on the Academic Honor Code in the syllabus. I will not hesitate to drop you from this class if you submit a program that is plagiarized.

**COMPLETE AND ACCURATE** – Your program must compile, execute, and give accurate output.

**FOLLOW ALL REQUIREMENTS ACCORDING TO THE INSTRUCTIONS** – Follow the instructions as written for completing this project, even if you [think you] know a "better" way to do something.

**COMMENTS** – Include comments in your code. There must be a comment at the top of your program that includes your name, the program number, and a description of the program. There must be comments at each important step in your program that describes that step. Every variable must include a comment describing its purpose.

**BEST PRACTICES** – Follow best practices in C programming as discussed in class and in the textbook, including, but not limited to, appropriate use of white space, indenting, alignment, meaningful identifier names, etc. Points will be deducted for sloppy code that is hard to read, even if it works, so pay attention to these details.

**SUBMIT ONLY .c SOURCE CODE** – Pay attention to the file extension of the source code file you submit. I will deduct points for not following this requirement.

**SUBMIT ALL FILES BEFORE THE DUE DATE** – Submit your .c source code file to the dropbox for this assignment on Canvas before the due date. Do not submit executable files. Do not submit project files from an IDE. I will not accept links to online storage.