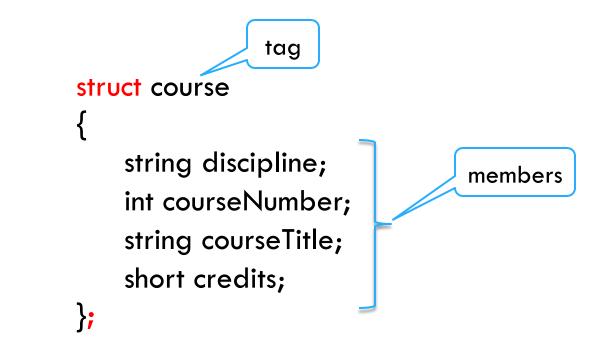
CSCI-1411 FUNDAMENTALS OF COMPUTING LAB



Fall 2015

1

- □ Abstract Data Type (ADT): a user defined data type
- □ Structure: a group of items of different data types



How to use a structure? Define a variable/an array Access to its members void main instance course pChem; pChem.discipline = "Chemistry";pChem.courseNumber = 99;dot operator course aSubjects[100];

□ How to use a structure?

Initialize structures at the time of their definition (in the order of structure members)

```
void main
{
    ...
    course pHistory = {"HIST", 302, "Colonial history", 3};
    ...
}
```

Note: If one structure member is left uninitialized, then all structure members that follow it must be uninitialized.

□ Hierarchical (Nested) structures

```
struct center_point
{
    float x;
```

```
float y;
```

```
struct circle
```

```
float radius;
float area;
float circumference;
center_point coordinate;
```

```
void main
{
    ...
    circle circ1;
    circ1.coordinate.x = 10;
    circ1.coordinate.y = 5;
}
```

□ Overview:

- Lab 11 Components
 - Lab Sections (11.1, 11.2, 11.3, 11.4, 11.5)

11.1 Working with Basic Structures

- (rect_struct.cpp)
- Match the provided output
- 11.2 Initializing Structures
 - (init_struct.cpp)
- 11.3 Arrays of Structures
 - (array_struct.cpp)
 - Answer questions asked in exercise 2
- 11.4 Nested Structures

(nestedRect_struct.cpp)

- 11.5 Code Assignment
 - Pick option one or two
 - Name the source file (main.cpp)

Submission File Checklist

- Submit all files on Canvas (One at a time or all of them in a single zip file). Be sure to include all source files and documents.
- □ 11.1 rect_struct.cpp
- □ 11.2 init_struct.cpp
- □ 11.3 array_struct.cpp
- □ 11.4 nestedRect_struct.cpp
- □ 11.5 main.cpp