

## ECE 4530 Fall 2019: Handout Lecture 9

### Single Semaphore Synchronization Point

```
int shared_data;
semaphore S1;
entity one {
    P(S1);
    while (1) {
        short_delay();
        shared_data = ...;
        V(S1); // synchronization point
    }
}

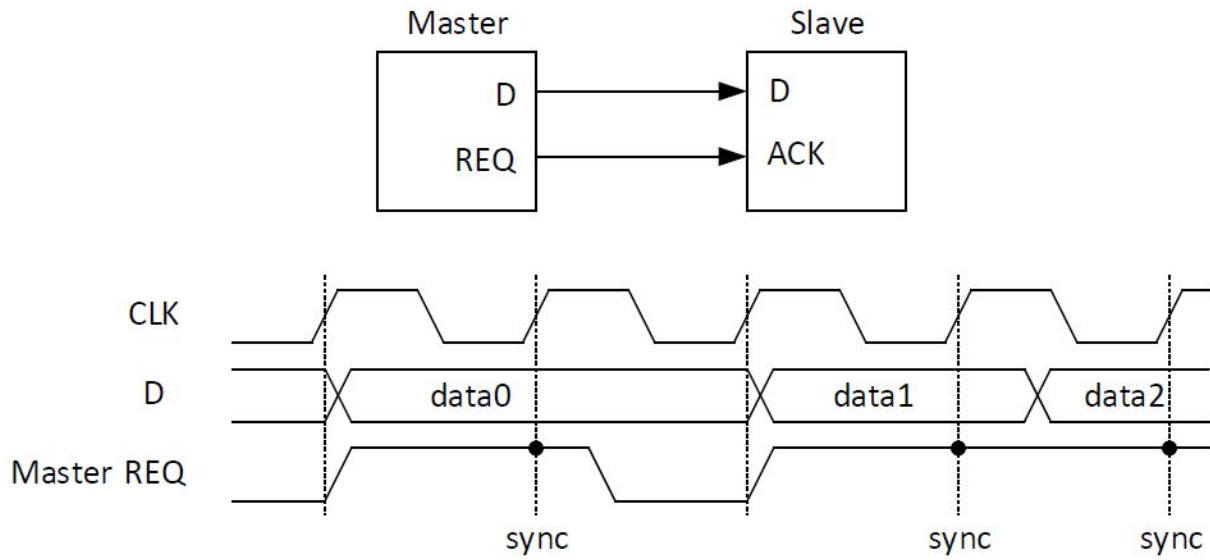
entity two {
    short_delay();
    while (1) {
        P(S1); // synchronization point
        received_data = shared_data;
    }
}
```

### Dual Semaphore Synchronization Point

```
int shared_data;
semaphore S1, S2;
entity one {
    P(S1);
    while (1) {
        variable_delay();
        shared_data = ...;
        V(S1); // synchronization point 1
        P(S2); // synchronization point 2
    }
}

entity two {
    P(S2);
    while (1) {
        variable_delay();
        P(S1); // synchronization point 1
        received_data = shared_data;
        V(S2); // synchronization point 2
    }
}
```

## One-way Handshake



## Two-way Handshake

