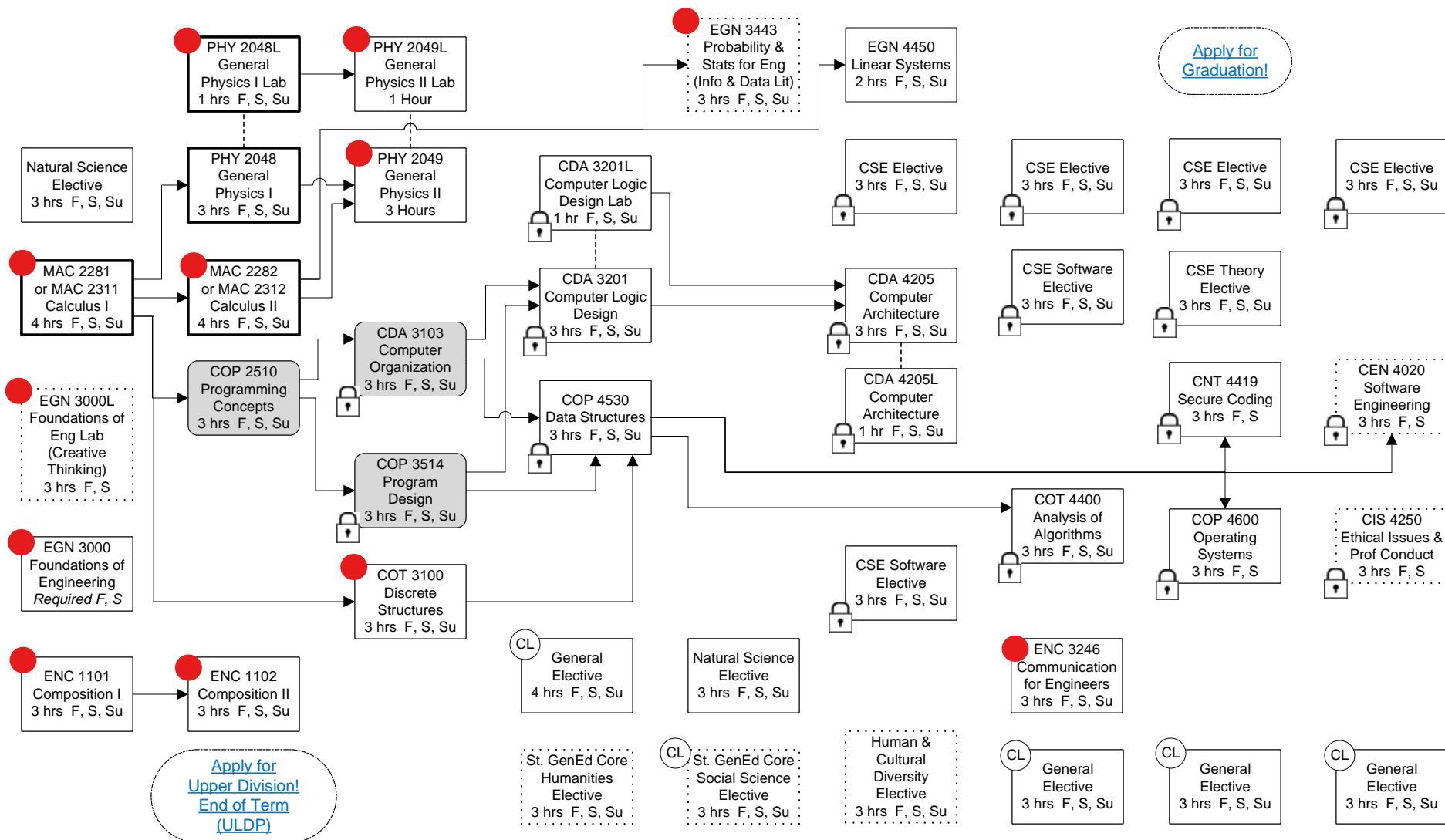


Flowchart

USF BS in Computer Science (B.S.C.S.)

2023-24 Catalog, 120 hours

Lower Division Status		Upper Division Status					
Year 1		Year 2		Summer	Year 3		Year 4
Fall 13 hrs	Spring 14 hrs	Fall 13 hrs	Spring 14 hrs	9 hrs	Fall 15 hrs	Spring 15 hrs	Fall 15 hrs Spring 12 hrs



Term & Sequence	Progression to the Upper Division	General Education Notes	Course and Major Notes
F = Fall S = Spring Su = Summer (tentative) —> Pre-requisite - - -> Pre/Co-requisite - - - - Co-requisite	<div> <div></div> Min grade B (not B-) in COP 2510 and a minimum grade average (see Dept website) in the bold-bordered courses to be eligible for Progression to Upper Division. </div> <div> <div></div> Restricted classes. Must have ULDP. </div>	<div> <div></div> Course meets Enhanced General Education Requirement. </div> <div> <div></div> Students must meet the Civic Literacy requirement with credit for AMH 2020/POS 2041 and by passing the Civics Literacy test. </div>	<div> <div></div> Max 2 attempts to earn required course grade (W, IF, U, R count as attempts). </div> <div> <div></div> High priority course that require a min B grade (not B-). </div> <div> <div></div> MIN GRADES: Unless otherwise stated, min grade in specialization courses is a C- and the min. grade in math, science, and engineering courses is C. </div> <div> <div></div> MIN GPA: 2.0 Semester, Engineering, Specialization, USF, and Overall </div>

Shoikot Sen

Yan Zhang

CDA3103

09/22/24

① Canonical SOP

$$F=1$$

$$\bar{x}=0$$

$$x=1$$

Full Canonical SOP form:

$$F(x, y, z) = \bar{x}\bar{y}\bar{z} + \bar{x}y\bar{z} + \bar{x}yz + x\bar{y}\bar{z} + x\bar{y}z + xyz$$

$$000 \rightarrow 0$$

$$010 \rightarrow 2$$

$$011 \rightarrow 3$$

$$101 \rightarrow 5$$

$$110 \rightarrow 6$$

$$111 \rightarrow 7$$

Simplified version:

$$F(x, y, z) = \sum_m(0, 2, 3, 5, 6, 7)$$

② Canonical POS

$$F = 0$$

$$\bar{x} = 1$$

$$x = 0$$

$$y = 1$$

$$y = 0$$

$$z = 1$$

Full CPOS form:

$$F(x, y, z) = x y z + x \bar{y} \bar{z} + \bar{x} y \bar{z} + \bar{x} \bar{y} z$$

Simplified expression:

$$000 \rightarrow 0$$

$$011 \rightarrow 3$$

$$100 \rightarrow 4$$

$$110 \rightarrow 6$$

$$0 \leftarrow 000$$

$$1 \leftarrow 010$$

$$2 \leftarrow 110$$

$$3 \leftarrow 101$$

$$4 \leftarrow 011$$

$$5 \leftarrow 111$$

$$F(x, y, z) = \prod M(0, 3, 4, 6)$$

③ a) $F(a,b,c) = ab + a'c$

	a	b	c	F
1	0	0	0	0
2	0	0	1	1
3	0	1	0	0
4	0	1	1	1
5	1	0	0	0
6	1	0	1	0
7	1	1	0	1
	1	1	1	1

$$CSOP = \sum m(1, 3, 6, 7)$$

$$CPOS = \prod M(0, 2, 4, 5)$$

$$F(a,b,c) = \bar{a}\bar{b}c + \bar{a}bc + ab\bar{c} + abc$$

(3) b)

A	B	C	D	F
0	0	0	0	0
0	0	0	1	1
0	0	1	0	1
0	0	1	1	1
0	1	0	0	0
0	1	0	1	0
0	1	1	0	0
0	1	1	1	0
1	0	0	0	0
1	0	0	1	0
1	0	1	0	1
1	0	1	1	0
1	1	0	0	0
1	1	0	1	1
1	1	1	0	1
1	1	1	1	1

$$F(A, B, C, D) = (A+B)(C+D)(A+B+D)$$

$$(A+B) = AB'CD = 0100 \rightarrow 4$$

$$AB'CD = 0110 \rightarrow 6$$

$$AB'CD = 0101 \rightarrow 5$$

$$AB'CD = 0111 \rightarrow 7$$

$$(C+D) = ABCD = 0000 \rightarrow 0$$

$$ABCD = 1000 \rightarrow 8$$

$$ABCD = 0100 \rightarrow 4$$

$$ABCD = 1100 \rightarrow 12$$

$$(A+B+D) = A'BCD' = 1001 \rightarrow 9$$

$$A'BC'D' = 1011 \rightarrow 11$$

$$CSOP: \sum_m (1, 2, 3, 10, 13, 14, 15)$$

$$CPOS: \pi_M (0, 4, 5, 6, 7, 8, 9, 11, 12)$$