# CS 302 – Data Structures

# UNIVERSITY OF NEVADA LAS VEGAS

Department ! C mputer Sc"ence Semester#Term

Item	Data Structures
Time(s):	
Class Location	
Office Location:	
Office Hours:	
Phone:	
WebCampus:	https:// ebcampus!unl"!e#u
\$mail:	

Note: The instructor reser"es the ri%ht to chan%e the s&llabus as it relates to ho the course is a#ministere#!

# C urse Descr"pt" n

Problem-solving methods and algorithm development in a high-level programming language. Program design, coding, debugging, and documentation using techniques of good programming style. Program development in a powerful operating environment. Three hours lecture and one hour lab.

CS ()\* S&IIabus

#### C urse \$rere%u"s"te&s'(

```
CS *)* (( cre#its)
```

To +ualif& for this course &ou must ha"e earne# a C or better in CS \*)\* (Computer Science II)!

# C urse Rat" na)e

, ppl& computer science theor& an# mathematical mo#els to comprehen# the tra#e-offs in"ol"e# in "arious #esi%n choices!

## Learn"n\* Outc mes#C urse O+,ect"-es

- '! Sortin% an# searchin% mo#els an# al%orithms inclu#in% the associate# tra#e-offs an# as&mptotic comple.it&!
- \*! Computer science theor& of basic #ata structures (stac/s0 +ueues0 trees0 heaps0 hash tables0 an# %raphs)!
- (! De"elop al%orithmic solutions to problems an# translate their al%orithms into pro%rams that meet a pro"i#e# set of specifications!
- 1! Demonstrate an# use %oo# pro%rammin% st&le an# a#e+uatel& #ocument pro%rams!

#### C urse E-a)uat" n

Stu#ent e"aluation ill be base# on the follo in%:

, ssi%nments: 123 Tests: (\*) 123 4inal \$.am: ')3

# Gra."n\* Sca)e

```
526'))
      5) 651
78
      9:695
7
      9169;
7-
      9) 69(
C8
      :: 6:5
С
      :16:;
C-
      :)6:(
D8
      ;: 6;5
D
      ;16;;
D-
      ;)6;(
4
      )) 6 25
```

# Un"-ers"t/ \$ )"c"es

#### \$u+)"c 0 ea)t1 D"rect"-es

4ace co"erin%s are currentl& man#ator& for all facult& an# stu#ents in the classroom! Stu#ents must follo all acti"e <=L> public health #irecti"es hile enrolle# in this class! <=L> public health #irecti"es are foun# at Health ?e+uirements for ?eturnin% to Campus0 https:// !unl"!e#u/corona"irus/health-re+uirements! Stu#ents ho #o not compl& ith these #irecti"es ma& be as/e# to lea"e the classroom! ?efusal to follo the %ui#elines ma& result in further #isciplinar& action accor#in% to the <=L> Stu#ent Con#uct Co#e0 https:// !unl"!e#u/sites/#efault/files/pa%e@files/\*:/Stu#entCon#uct-Co#e!p#f0 inclu#in% bein% a#ministrati"el& ith#ra n from the course!

#### Aca.em"c 2 "sc n.uct

, ca#emic inte%rit& is a le%itimate concern for e"er& member of the <ni"ersit& communit&! We all share in uphol#in% the fun#amental "alues of honest&0 trust0 respect0 fairness0 responsibilit&0 an# professionalism! 7& choosin% to Aoin the <=L> communit&0 stu#ents accept the e.pectations of the Stu#ent , ca#emic B iscon#uct Polic&0 an# are encoura%e# to al a&s ta/e the ethical path hene"er face# ith choices! Stu#ents enrollin% at <=L> assume the obli%ation to con#uct themsel!rsi theeriess in aselarsher abnasesicTe /.itThu<=L>Cs e#ucational mission! , n e.ample of aca#emic miscon#uct is pla%iD t

Since the CO>ID-'5 pan#emic force# some instruction to be #eli"ere# remotel& startin% in Sprin% \*)\*)0 numerous stu#ents ha"e as/e# instructors to recor# their s&nchronous classes0 so that the& can access them at their con"enience! Instructors ho a%ree to recor# their classes (au#io onl&0 or "i#eo an# au#io) shoul# inform stu#ents in a#"ance! ?ecor#e# lectures ma& not be broa#l& release# to an&one0 but ma#e a"ailable e.clusi"el& to those stu#ents enrolle# in the class #urin% the particular aca#emic term! ?ecor#e# lectures must be store# securel&0 an# are subAect to the =e"a#a S&stem of Hi%her \$#ucationCs ?ecor#s ?etention Polic&0 meanin% that the recor#in%s can onl& be #elete# '\*) #a&s after the en# of class (i!e!0 after %ra#es are poste#)! Once this re+uirement is met0 the recor#in%s shoul# be #elete#! Class recor#in%s are protecte# from #isclosure0 as the& are #eeme# part of an e#ucational recor# un#er the 4amil& \$#ucational ?i%hts an# Pri"ac& , ct (4\$?P,)!

#### C p/r"\*1t

The <ni"ersit& re+uires all members of the <ni"ersit& Communit& to familiariDe themsel"es ith0 an# to follo cop&ri%ht an# fair use re+uirements! Eou are in#i"i#uall& an# solel& responsible for "iolations of cop&ri%ht an# fair use la s! The <ni"ersit& ill neither protect nor #efen# &ou0 nor assume an& responsibilit& for stu#ent or emplo&ee "iolations of fair use la s! >iolations of cop&ri%ht la s coul# subAect &ou to fe#eral an# state ci"il penalties an# criminal liabilit&0 as ell as #isciplinar& action un#er <ni"ersit& policies! , ##itional cop&ri%ht polic& information is a"ailable at https:// !unl"!e#u/pro"ost/cop&ri%ht!

#### D"sa+")"t/ Res urce Center &DRC'

The <=L> Disabilit& ?esource Center (Stu#ent Ser"ices Comple.0 SSC-,0 ?oom '1(0 https:// !unl"!e#u/#rc0 telephone:)\*-952-)9;;) pro"i#es resources for stu#ents ith #isabilities! Stu#ents ho belie"e that the& ma& nee# aca#emic accommo#ations #ue to a permanent #isabilit&0 temporar& or permanent me#ical nee#0 or aca#emic support #ue to pre%nanc& are encoura%e# to contact the D?C as earl& as possible in the aca#emic term!, Disabilities Specialist ill #iscuss hat options ma& be a "ailable to &ou! Stu#ents ho are alrea#& re%istere# ith the D?C shoul# re+uest their accommo#ations online each semester0 an# ma/e an appointment to #iscuss their accommo#ations ith their instructors!

## F"na) E3am"nat" ns

The <ni"ersit& re+uires that final e.ams %i"en at the en# of a course occur on the #ate an# at the time specifie# in the 4inal \$.am sche#ule! The 4inal \$.am sche#ule is t&picall& a"ailable at the start of the semester0 an# the classroom locations are a"ailable appro.imatel& one month before the en# of the semester! See the 4inal \$.am Sche#ule0 https:// !unl"!e#u/re%istrar/calen#ars!

# I.ent"t/ Ver"!"cat" n "n On)"ne C urses

, II <= L> stu#ents must use their Campus-issue# , C\$ ID an# pass or# to Io% in to WebCampus-Can"as!

<=L> stu#ents enrolle# in online or h&bri# courses are e.pecte# to rea# an# a#here to the Stu#ent , ca#emic B iscon#uct Polic&0 https:// !unl"!e#u/stu#entcon#uct/miscon#uct/polic&0 hich states that Factin% or attemptin% to act as a substitute for another0 or usin% or attemptin% to use a substitute0 in an& aca#emic e"aluation or assi%nmentG is a form of aca#emic miscon#uct! Intentionall& sharin% , C\$ lo%in cre#entials ith another person ma& be consi#ere# an attempt to use a substitute0 an# coul# result in in"esti%ation an# sanctions0 as outline# in the Stu#ent , ca#emic B iscon#uct Polic&!

<=L> stu#ents enrolle# in online courses are also e.pecte# to rea# an# a#here to the <u>, cceptable <se of Computin% an# Information Technolo%& ?esources Polic&</u>0 https:// !it!unl"!e#u/policies/acceptable-use-computin%-an#-information-technolo%&-

resources-polic& hich prohibits sharin% uni"ersit& accounts ith other persons ithout authoriDation!

To the %reatest e .tent possible all %ra#e# assi%nments an# assessments in <=L> online courses shoul# be hoste# in WebCampus-Can"as or another <=L>-mana%e# platform that re+uires , C\$ lo%in cre#entials for access!

#### Inc mp)ete Gra.es

The %ra#e of FIG (Incomplete) ma& be %rante# hen a stu#ent has satisfactoril& complete# three-fourths of course or/ for that semester/session0 but cannot complete the last part of the course for reason(s) be&on# the stu#entCs control an# acceptable to the instructor0 an# the instructor belie"es that the stu#ent can finish the course ithout repeatin% it! 4or un#er%ra#uate courses0 the incomplete or/ must be ma#e up before his/https/stable frello in% re%ular semester! Ht! 4or un#fat%e ihe

# C urse A\*en.a#Sc1e.u)e

Table 1: CS 302 Course Agenda/Schedule

2 .u)e# 6 ee5 7	Act"-"t/	Lecture
,	Intro#uction C88 re"ie topics.	'_*
*	#dgtomigthp%npaistastysampand 3big4 notation!	(-1
(	orting and searching.	2-;
1	45/ststsTodac#s, and queues!	:-9
2	6 inary trees, binary search trees, and tree traversals!	5-')