

9/26/2025

DATE



REQUIRED COURSE



ELECTIVE COURSE

BUS DIVISION



NEW COURSE



REVISION

# Lake Land College

## Course Information Form

<b>COURSE NUMBER:</b>	CIS-081	<b>TITLE: (30 Characters Max)</b>	Networking Essentials										
<b>SEM CR HRS:</b>	3.0	<b>Lecture:</b>	2.0	<b>Lab:</b>	2.0	<b>ICCB Lab:</b>	2.0	<b>ECH:</b>	4.0				
<b>Course Level:</b>	<input type="checkbox"/> Gen Ed/IAI <input type="checkbox"/> Baccalaureate/Non-IAI			<input checked="" type="checkbox"/> Career/Technical <input type="checkbox"/> Dev Ed/Not in Degree Audit		<b>Clinical Practicum:</b>	0.0	<b>Work-based Learning:</b>	0.0	<b>WBL ECH:</b>	0.0		
<b>Course PCS &amp; CIP:</b>	12 - 11.0901		<b>IAI Code:</b>	N/A		<b>Contact Hours (Minutes/Week)</b>							
<b>Repeatable (Y/N):</b>	Y	<b>Pass/Fail (Y/N):</b>	N	<b>Variable Credit (Y/N):</b>	N	<b>Min:</b>		<b>Max:</b>		<b>16 Wks</b>	200	<b>8 Wks</b>	400
<b>Prerequisites:</b>	None												
<b>Corequisites:</b>	None												
<b>Catalog Description: (40 Word Limit)</b>	An introduction to networking technology for local area networks (LANs), wide area networks (WANs) and the internet. Designed for those seeking a career in network administration and support or those seeking professional certification. Leads toward Network+ Certification. (Repeatable 3 Times)												

List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
Network orientation	3			
Network components	3			
Network functions	5			
Network architectures	3			
Network operations	5			
Administration and support	4			
Larger networks	5			
Troubleshooting	2			
Lab exercises		30		
<b>TOTAL</b>	<b>30</b>	<b>30</b>	<b>0</b>	<b>0</b>

### EVALUATION

<b>QUIZZES</b> <input checked="" type="checkbox"/>	<b>EXAMS</b> <input checked="" type="checkbox"/>	<b>ORAL PRES</b> <input type="checkbox"/>	<b>PAPERS</b> <input type="checkbox"/>
<b>LAB WORK</b> <input checked="" type="checkbox"/>	<b>PROJECTS</b> <input checked="" type="checkbox"/>	<b>COMP FINAL</b> <input checked="" type="checkbox"/>	<b>OTHER</b> <input type="checkbox"/>

### COURSE MATERIALS

<b>TITLE:</b>	Network+ Guide to Networks	Microsoft Windows Network Essentials
<b>AUTHOR:</b>	Tamara Dean	Gibson
<b>PUBLISHER:</b>	Course Technology	Sybex
<b>VOLUME/EDITION/URL:</b>	7th edition	
<b>COPYRIGHT DATE:</b>	2015	2011

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		<i>The student will be able to:</i>
Network orientation	3	1. Identify network types and the advantages and disadvantages of each: terminology, network typologies and network design.
Network components	3	1. Identify and explain the functions of the different component parts of a network: cabling, wireless communication and adapter cards.
Network functions	5	1. Describe the methods by which data is transmitted over the physical layer: OSI model, drivers, data transmission, protocols and data access methods.
Network architectures	3	1. Identify and explain the major network architectures and their component parts: ethernet and token ring.

Network operations	5	1. Identify the essential operations of all networks: network operating systems, printing, implementing applications, multi-vendor environments and client/server environments.
Administration and support	4	1. Describe and explain the procedures for the implementation, support, and securing of the network: network accounts, network performance monitoring, data security and avoiding data loss.
Larger networks	5	1. Explain when and how to expand the LAN into a larger network: modem communication, creating larger networks, wide area network (WAN) transmission, advanced WAN technologies and internet.
Troubleshooting	2	1. Analyze normal functions, identify abnormal functions, and use appropriate tools to correct problems: monitoring and troubleshooting
Lab exercises	30	1. Demonstrate the skills above through multiple projects and lab work.
	60	

Outcomes*	Outcome Title	At the successful completion of this course, students will be able to:
Course Outcome 1	Topologies	Describe the major topologies.
Course Outcome 2	Wire Types	Name the major wire types and their differences.
Course Outcome 3	OSI Model Layers	Describe the functions of the OSI model layers.
Primary Laker Learning Competency	Information & Technology Literacy: Students evaluate information effectively using the appropriate technological tools.	
Secondary Laker Learning Competency	Critical Thinking: Students connect knowledge from various disciplines to formulate logical conclusions.	

\*Course and program outcomes will be used in the software for outcomes assessment and should include at least 1 primary and 1 secondary Laker Learning Competency. Limit to 3-5.

# Lecture

Contact

Lecture

Hours	Study Time	Total Hours	Total Minutes	Min/Week	ECH	SCH
7.5	15	22.5	1125	25	0.5	0.5
15	30	45	2250	50	1	1
22	44	66	3300	73	1.5	1.5
30	60	90	4500	100	2	2
37	74	111	5550	123	2.5	2.5
45	90	135	6750	150	3	3
52	104	156	7800	173	3.5	3.5
60	120	180	9000	200	4	4
67	134	201	10050	223	4.5	4.5
75	150	225	11250	250	5	5
82	164	246	12300	273	5.5	5.5
90	180	270	eking a career	300	6	6
97	194	291	14550	323	6.5	6.5
105	210	315	15750	350	7	7
112	224	336	16800	373	7.5	7.5
120	240	360	18000	400	8	8
135	270	405	20250	450	9	9
150	300	450	22500	500	10	10
165	330	495	24750	550	11	11
180	360	540	27000	600	12	12

# Lab

Contact Lab	Total					
Hours	Study Time	Total Hours	Minutes	Min/Week	ECH	SCH
7.5	3.75	11.25	375	25	0.5	0.5
15	7.5	22.5	750	50	1	0.5
22.5	11.25	33.75	1125	75	2	1
30	15	45	1500	100	2	1
37.5	18.75	56.25	1875	125	3	1
45	22.5	67.5	2250	150	3	1.5
52.5	26.25	78.75	2625	175	4	1.5
60	30	90	3000	200	4	2
67.5	33.75	101.25	3375	225	5	2
75	37.5	112.5	3750	250	5	2.5
82.5	41.25	123.75	4125	275	6	2.5
90	45	135	4500	300	6	3
97.5	48.75	146.25	4875	325	7	3
105	52.5	157.5	5250	350	7	3.5
112.5	56.25	168.75	5625	375	8	3.5
120	60	180	6000	400	8	4
127.5	63.75	191.25	6375	425	9	4
135	67.5	202.5	6750	450	9	4.5

142.5	71.25	213.75	7125	475	10	4.5
150	75	225	7500	500	10	5
157.5	78.75	236.25	7875	525	11	5
165	82.5	247.5	8250	550	11	5.5
172.5	86.25	258.75	8625	575	12	5.5
180	90	270	9000	600	12	6
187.5	93.75	281.25	9375	625	13	6
195	97.5	292.5	9750	650	13	6.5

# Clinical Practicum

Contact Lab			Total			
Hours	Study Time	Total Hours	Minutes	Min/Week	ECH	SCH
15	7.5	22.5	750	50	1	0.5
30	15	45	1500	100	2	1
45	22.5	67.5	2250	150	3	1
60	30	90	3000	200	4	1
75	37.5	112.5	3750	250	5	1.5
90	45	135	4500	300	6	2
105	52.5	157.5	5250	350	7	2
120	60	180	6000	400	8	2.5
135	67.5	202.5	6750	450	9	3
150	75	225	7500	500	10	3
165	82.5	247.5	8250	550	11	3.5
180	90	270	9000	600	12	4
195	97.5	292.5	9750	650	13	4
210	105	315	10500	700	14	4.5
225	112.5	337.5	11250	750	15	5
240	120	360	12000	800	16	5
255	127.5	382.5	12750	850	17	5.5
270	135	405	13500	900	18	6
285	142.5	427.5	14250	950	19	6
300	150	450	15000	1000	20	6.5
315	157.5	472.5	15750	1050	21	7
330	165	495	16500	1100	22	7
345	172.5	517.5	17250	1150	23	7.5
360	180	540	18000	1200	24	8
375	187.5	562.5	18750	1250	25	8
390	195	585	19500	1300	26	8.5
405	202.5	607.5	20250	1350	27	9
420	210	630	21000	1400	28	9
435	217.5	652.5	21750	1450	29	9.5
450	225	675	22500	1500	30	10
465	232.5	697.5	23250	1550	31	10
480	240	720	24000	1600	32	10.5
495	247.5	742.5	24750	1650	33	11
510	255	765	25500	1700	34	11
525	262.5	787.5	26250	1750	35	11.5
540	270	810	27000	1800	36	12

# Work-based Learning/Internship/SOE

Contact Lab		Total			ICCB Lab	
Hours	Study Time	Total Hours	Minutes	Min/Week	Hours	SCH
37.5	18.75	56.25	1875	125	2.5	0.5
75	37.5	112.5	3750	250	5	1
112.5	56.25	168.75	5625	375	7.5	1.5
150	75	225	7500	500	10	2
187.5	93.75	281.25	9375	625	12.5	2.5
225	112.5	337.5	11250	750	15	3
262.5	131.25	393.75	13125	875	17.5	3.5
300	150	450	15000	1000	20	4
337.5	168.75	506.25	16875	1125	22.5	4.5
375	187.5	562.5	18750	1250	25	5
412.5	206.25	618.75	20625	1375	27.5	5.5
450	225	675	22500	1500	30	6
487.5	243.75	731.25	24375	1625	32.5	6.5
525	262.5	787.5	26250	1750	35	7
562.5	281.25	843.75	28125	1875	37.5	7.5
600	300	900	30000	2000	40	8
637.5	318.75	956.25	31875	2125	42.5	8.5
675	337.5	1012.5	33750	2250	45	9

Student

TYPE OF INSTRUCTION	CONTACT HOURS FOR SEMESTER	ASSUMED OUTSIDE HOURS OF STUDY FOR SEMESTER	SEMESTER CREDITS
LECTURE-DISCUSSION	15	30	1 semester credit
LABORATORY/CLINICAL-LAB ORIENTED	30-45	15 outside for 30 lab	1 semester credit
CLINICAL PRACTICUM	30-60	15 outside for 30 lab	1 semester credit
NON-CLINICAL INTERNSHIPS, PRACTICUM, OR ON-THE-JOB INSTRUCTION	75-149		1 semester

(ICCB Program Manual , page 94)

WBL Hours are reported to ICCB in the Lab column. Hours are calculated by taking the total Contact hours divided by 15.



1. Identify network types and the advantages and disadvantages of each: term

1. Identify and explain the functions of the different component parts of a net

1. Describe the methods by which data is transmitted over the physical layer: (

1. Identify and explain the major network architectures and their component p

1. Identify the essential operations of all networks: network operating system:

1. Describe and explain the procedures for the implementation, support, and s

1. Explain when and how to expand the LAN into a larger network: modem con

1. Demonstrate the skills above through multiple projects and lab work.

Although clinical is grouped with lab in the *ICCB Program Manual*, it is separate here to recognize SCH versus ECH differences that are calculated at a 1:3 ratio, which is different from lab.





securing of the network: network accounts, network performance monitoring, data security and avoiding data lc

mmunication, creating larger networks, wide area network (WAN) transmission, advanced WAN technologies an











d internet.