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**CSCI 4345.01: Computer Networks**

**SYLLABUS**

**Spring 2023**

*Subject to any new Texas legislative mandate changes.*

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| **Course Information:**Meeting times: **TT 9:30 AM TO 10:45 PM. Face to face**Meeting location EIEAB 1.208**Course Modality:** Traditional in Person Classroom EIEAB 1.208 |
| **Instructor Information:****Instructor Name: Dr. John P. Abraham**Phone: (956) 665-3550E-Mail: john.abraham@utrgv.edu**Office location: EIEAB 3.243 (New Eng Bldg in Edinburg)Office hours:**TU: 12 noon 2 pm and Wed 10 am to 12:30 |

 **My Schedule**

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| **CSCI 4335.01**Computer Architecture [Syllabus.](file:///%5C%5Cfaculty.utrgv.edu%5Cjohn.abraham%24%5C4345%5C2022%20Fall%5C4335%5C2022%5CSyllabus%20FALL%2022.docx)EIAB 1.208 | **TT 11:00 AM TO 12:15 PM** |   |  |
| **CSCI 4345.01** [**Syllabus**](file:///%5C%5Cfaculty.utrgv.edu%5Cjohn.abraham%24%5C4345%5C2022%20Fall%5C4345%5C2022%20Fall%5CSyllabus%20Fall%202022.docx)EIAB 2:209Computer Networks | **TT 9:30 AM TO 10:45 PM. Face to face** |   |   |
|   |   |   |   |
| **Office Hours** | TTh 12:30 PM TO 1:30 PMPlease make appointment at least two hours prior |   |   |
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**Welcome & Introduction to COURSE MODALITY**

**Traditional:** I will be teaching this course in person. Attendance is required. If you can’t come to classes please drop the course to avoid being dropped by the faculty.

Course Description, Prerequisites & MODE OF LEARNING:

**Catalog Description**: An introduction to data communication topics, including data transmission, encoding, data link control, switching, network topologies, protocols, internet working and data security. Examples of existing networks and network architectures are studied. Equivalent course: [CMPE 4345](http://utrgv.smartcatalogiq.com/2019-2020/2019-2020-Undergraduate-Catalog/Courses/CMPE-Computer-Engineering/4000/CMPE-4345). A student may receive credit in only one course. Prerequisite: [CSCI 2380](http://utrgv.smartcatalogiq.com/2019-2020/2019-2020-Undergraduate-Catalog/Courses/CSCI-Computer-Science/2000/CSCI-2380).

**In addition** to this, students will gain practical experience in setting up communication between computers, networking, and network management. Students will set up servers and clients and create communication between them, and setup rights and privileges.

**A note to my students:** Computer networking is quite different than most other courses you have taken. There are many ways to accomplish a task. I do not teach you the steps needed to get something done. My instructions to you may look sparse; please be assured they are intentional. That is the only way you are going to learn networking. You probably will have to do lots of attempts before getting intended result. Do not get frustrated. I get many positive comments from students who completed the course successfully. Several of them have landed good jobs in the area of network administration. Rarely one or two students repeat the course mostly because they did not do the assignments on time. All assignments should be done by each student and may not copy from someone else or the Web. However, you can work with others or check the Web to learn the concepts.

**Mode of learning:** We are planning to meet in-person in the designated classroom. Currently we are undergoing a surge in the Omicron variant of the Corona Covid Virus. If we get caught in the middle of rise in infections by the time classes start, I will notify you by email of alternatives.

COVID-19 RESOURCES**:**

Please visit the [UTRGV COVID-19 Website](https://www.utrgv.edu/coronavirus/index.htm) via the following link for the most up-to-date information and resources (<https://www.utrgv.edu/coronavirus/index.htm>).  This includes information on self-screening questions, links to forms for travel and contact, etc.

Face Covering [Protocol](https://www.utrgv.edu/coronavirus/updates/2020-05-29/index.htm)**:**

As part of the university’s ongoing COVID-19 mitigation efforts to maintain a healthy environment for all members of our campus community, anyone entering a campus building is encouraged wear a face covering that covers the mouth and nose. You are recommended to wear face coverings in all hallways, public spaces, research labs, teaching/computer labs, libraries, classrooms, automobiles with a passenger, stairwells, elevators and common areas, as well as office spaces.

**Textbooks:**

**Required**: Forouzan, Behrouz, Data Communications & Networking with TCP/IP protocol Suite, 6th Edition, McGraw Hill 2022. ISBN10: 0078022096, ISBN13: 9780078022098

**Please take good notes as I cover a great deal more than in the textbook.**

**Reference books:**

* Comer, Douglas E., Computer Networks and Internets, 6th Edition, Prentice Hall, 2015.
* ISBN-10: 0133587932 **(**ISBN-13: 978-0133587937**)**
* Behrouz A. Forouzan, TCP/IP Protocol Suite, 4th Ed., McGraw Hill, 2010. ISBN 978-0-07-337604-2
* Lin, Hwang,and Baker. Computer Networks an Open Source Approach, 2012. ISBN 978-007-337624-0
* William Stallings, Data and Computer Communications 10th Edition, 2013, ISBN 0133506487 Pearson.
* *UNIX Network Programming* by W. Richard Stevens, Prentice Hall, 1990

**System Requirements:**

You will need a computer that can handle VIRTUAL MACHINES, one Linux and one Microsoft Windows based servers and one or two clients. For practical projects students may need to obtain either hardware or software.

**Expected Background:**

Students are expected to be able to program in C or ++, C#, VB, Python or Java. Students who are not fluent in these topics should make up the deficiencies by homework and programming exercises.

**COURSE OBJECTIVES**: Upon conclusion of this course a student will be able to plan and install a TCP/IP protocol stack based local area network, set up switches and routers, and write socket programs for communication.

**Learning outcomes:**

* 1. Compare and contrast the OSI and TCP/IP models.
	2. Create virtual servers and workstations
	3. Configure servers, switches and routers.
	4. Create subnets and supernets.
	5. Create routing tables.
	6. Setup static IP address as well as DHCP based scopes.
	7. Setup a DNS and manipulate MX and A records
	8. Setup a wireless network
	9. Install appropriate network security
	10. Write socket programs

**Assignments (lab and programming):**

General instructions about programming: You may choose any of the following languages: C, C++, C#, Java, Visual Basic, or Python. If you would like to use another language please talk with me first. I will not give you any assistance with the programming assignments. You are welcome to talk with others in the class to get general ideas and algorithms, but may not view their source codes.

Assignments are due as specified in the Blackboard. Late penalties: 1 day=10%, 2 days=20%, 1 week=30%, After 1 week but before 2 weeks=50%, after two weeks I do not accept assignments (no exceptions). Generally, there will be one lab assignment per week. Each assignment is built upon the previous assignments. Therefore, do not get behind in your lab assignments. Here are some sample assignments, you may want to do them as early as possible. I reserve the right to ask questions on the test from the lab assignments. **For all assignments, please submit in one word document with all screen captures pasted in it with comments for each screen capture. All assignments should be done by each student and may not copy from someone else or the Web. However, you can work with others or check the Web to learn the concepts. Plagiarism can lead to dismissal from the class and/or from the University.**

**Grading:** Midterm and Final Exams 60%, Practical portion (labs) or programming 30% , Attendance and other assignments 10%

**Important Notice about taking exams:**

Your enrollment in this course requires that you use Respondus Lockdown Browser and Respondus Monitor for online assessment proctoring. LockDown Browser is a custom browser that locks down the testing environment within Blackboard and replaces regular browsers such as Chrome, Firefox, and Safari. Respondus Monitor requires you to have a webcam and microphone as it will record you while taking your assessment. **YOUR ACTIVITIES ARE RECORDED WHILE YOU ARE LOGGED INTO OR TAKING YOUR ASSESSMENT(S).  THE RECORDINGS SERVE AS A PROCTOR AND WILL BE REVIEWED AND USED IN AN EFFORT TO MAINTAIN ACADEMIC INTEGRITY.**You can find more detailed information on [Lockdown Browser and Monitor](https://www.utrgv.edu/online/getting-support/student-support/respondus/index.htm) at [UTRGV.edu/online](https://nam01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.utrgv.edu%2Fonline%2Fgetting-support%2Fstudent-support%2Frespondus%2Findex.htm&data=02%7C01%7Cpriscilla.lozano%40utrgv.edu%7C6e38d72002b74279921d08d7df9e3c2c%7C990436a687df491c91249afa91f88827%7C0%7C0%7C637223743015282674&sdata=lE6Dcm7gfPcp7rp86Xm5vTjmjTZ1CJCAxSfY6mJ7F7A%3D&reserved=0).

ATTENDANCE: Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences. UTRGV’s attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; have been provided such an accommodation by Student Accessibility Services (SAS); for observance of religious holidays; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

**Blackboard Support**

If you need assistance with course technology at any time, please contact the [Center for Online Learning and Teaching Technology](https://www.utrgv.edu/online/) (COLTT).

| **Campus:** | **Brownsville** | **Edinburg** |
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| **Location:** | Casa Bella (BCASA) 613 | Education Complex (EEDUC) 2.202 |
| **Phone:** | 956-882-6792 | 956-665-5327 |

**Toll Free: 1-866-654-4555**

Office Hours: Monday - Friday, 7:30 a.m. - 6:00 p.m.
Support Tickets Submit a Support Case via our [Ask COLTT Portal](https://utrgv.edu/coltthelp)

**24/7 Blackboard Support**

Need Blackboard assistance after hours? You can call our main office numbers, 956-882-6792 or 956-665-5327, to speak with a support representative.

ACADEMIC INTEGRITY:

Members of the UTRGV community uphold the [Vaquero Honor Code](https://nam01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.utrgv.edu%2Fstudentlife%2Fabout%2Fvaquero-honor-code%2Findex.htm&data=02%7C01%7Cdavid.granado%40utrgv.edu%7C2b62b139d6dd4e81de4208d83567012f%7C990436a687df491c91249afa91f88827%7C0%7C0%7C637318063815870808&sdata=u3JK2q8UqFwgzYkzXZWeIRM%2FuNsVreezdMT5ZQr8tdE%3D&reserved=0)’s  shared values of honesty, integrity and mutual respect in our interactions and relationships.  In this regard, academic integrity is fundamental in our actions, as any act of dishonesty conflicts as much with academic achievement as with the values of honesty and integrity.  Violations of academic integrity include, but are not limited to: cheating, plagiarism (including self-plagiarism), and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts (Board of Regents Rules and Regulations, STU 02-100, and UTRGV Academic Integrity Guidelines).  **All violations of Academic Integrity will be reported to Student Rights and Responsibilities through**[**Vaqueros Report It**](https://nam01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.utrgv.edu%2Fen-us%2Fstudent-experience%2Freport-it%2F&data=02%7C01%7Cdavid.granado%40utrgv.edu%7C2b62b139d6dd4e81de4208d83567012f%7C990436a687df491c91249afa91f88827%7C0%7C0%7C637318063815880802&sdata=AxekhYtwdB%2Baey6EThon1hqp19tXWY7HmAdrWDFIELA%3D&reserved=0)**.**

STUDENTS WITH DISABILITIES:

Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive reasonable academic accommodations should contact **Student Accessibility Services (SAS)**for additional information.  In order for accommodation requests to be considered for approval, the student must apply using the *mySAS* portal located at [www.utrgv.edu/mySAS](https://nam01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.utrgv.edu%2FmySAS&data=02%7C01%7Cdavid.granado%40utrgv.edu%7C47dbf090677947b5e67e08d83305c9e4%7C990436a687df491c91249afa91f88827%7C0%7C0%7C637315447247309796&sdata=k%2FZq6WdNnZPfJN1x0egJQ9q0AMN%2Fd0pCtmNuRhnMy2g%3D&reserved=0) and is responsible for providing sufficient documentation of the disability to SAS. Students are required to participate in an interactive discussion, or an intake appointment, with SAS staff. Accommodations may be requested at any time but are not retroactive, meaning they are valid once approved by SAS. Please contact SAS early in the semester/module for guidance. Students who experience a broken bone, severe injury, or undergo surgery may also be eligible for temporary accommodations.

**Pregnancy, Pregnancy-related, and Parenting Accommodations**

Title IX of the Education Amendments of 1972 prohibits sex discrimination, which includes discrimination based on pregnancy, marital status, or parental status. Students seeking accommodations related to pregnancy, pregnancy-related condition, or parenting (reasonably immediate postpartum period) are encouraged to apply to **Student Accessibility Services** using the following link: [Pregnancy Accommodations Request Form](https://cm.maxient.com/reportingform.php?UnivofTexasRGV&layout_id=22) [https://www.utrgv.edu/pregnancy](https://nam01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.utrgv.edu%2Fpregnancy&data=02%7C01%7Cdavid.granado%40utrgv.edu%7C47dbf090677947b5e67e08d83305c9e4%7C990436a687df491c91249afa91f88827%7C0%7C0%7C637315447247309796&sdata=W%2BBV%2Bu2W%2FFo292T1PTZEqwcRWBp0bxcCT4YD1N07Mvg%3D&reserved=0)

**Student Accessibility Services:**

**Brownsville Campus**: Student Accessibility Services is located in 1.107 in the Music and Learning Center building (BMSLC) and can be contacted by phone at (956) 882-7374 or via email at ability@utrgv.edu.

**Edinburg Campus:** Student Accessibility Services is located in 108 University Center (EUCTR) and can be contacted by phone at (956) 665-7005 or via email at ability@utrgv.edu.

MANDATORY COURSE EVALUATION PERIOD**:**

Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account ([http://my.utrgv.edu](http://my.utrgv.edu/)); you will be contacted through email with further instructions.  Students who complete their evaluations will have priority access to their grades.

SEXUAL MISCONDUCT and MANDATORY REPORTING:

In accordance with UT System regulations, your instructor is a “Responsible Employee” for reporting purposes under Title IX regulations and so must report to the Office of Institutional Equity & Diversity (OIED@utrgv.edu) any instance, occurring during a student’s time in college, of sexual misconduct, which includes sexual assault, stalking, dating violence, domestic violence, and sexual harassment, about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at [www.utrgv.edu/equity](https://nam01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.utrgv.edu%2Fequity&data=02%7C01%7Cdavid.granado%40utrgv.edu%7C3d4a82332e444b8e606d08d834d42073%7C990436a687df491c91249afa91f88827%7C0%7C0%7C637317432985425767&sdata=jCnOqfBL3vxfYuvYF3qtjVy4tmK9o9m%2FBghvXKfL%2FN4%3D&reserved=0), including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect that is free from sexual misconduct, discrimination, and all forms of violence. If students, faculty, or staff would like confidential assistance, or have questions, they can contact OVAVP (Office for Victim Advocacy & Violence Prevention) at (956) 665-8287, (956) 882-8282, or OVAVP@utrgv.edu.

COURSE DROPS:

According to UTRGV policy, students may drop any class without penalty earning a grade of DR (drop) until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.

STUDENT SERVICES:

Students who demonstrate financial need have a variety of options when it comes to paying for college costs, such as scholarships, grants, loans and work-study. Students should visit the Student Services Center (U Central) for additional information. U Central is located in BMAIN 1.100 (Brownsville) or ESSBL 1.145 (Edinburg) or can be reached by email (ucentral@utrgv.edu) or telephone: (888) 882-4026. In addition to financial aid, U Central can assist students with registration and admissions.

Students seeking academic help in their studies can use university resources in addition to an instructor’s office hours. University Resources include the Advising Center, Career Center, Counseling Center, Learning Center, and Writing Center. The centers provide services such as tutoring, writing help, counseling services, critical thinking, study skills, degree planning, and student employment. In addition, services such as the Food Pantry are also provided. Locations are listed below.

| **Center Name** | **Brownsville Campus** | **Edinburg Campus** |
| --- | --- | --- |
| **Advising Center**AcademicAdvising@utrgv.edu | BMAIN 1.400(956) 665-7120 | ESWKH 101A(956) 665-7120 |
| **Career Center**CareerCenter@utrgv.edu | BINAB 1.105(956) 882-5627 | ESSBL 2.101(956) 665-2243 |
| **Counseling Center**Counseling@utrgv.edu [Counseling and Related Services List](https://www.utrgv.edu/facultysuccess/_files/documents/syllabus-statement-for-counseling-12-16-19.pdf) | BSTUN 2.10(956) 882-3897  | EUCTR 109(956) 665-2574 |
| **Food Pantry**FoodPantry@utrgv.edu | BCAVL 101 & 102(956) 882-7126 | EUCTR 114(956) 665-3663 |
| **Learning Center**LearningCenter@utrgv.edu | BMSLC 2.118(956) 882-8208 | ELCTR 100(956) 665-2585 |
| **Writing Center**WC@utrgv.edu | BUBLB 3.206(956) 882-7065 | ESTAC 3.119(956) 665-2538 |

**Calendar of Activities  - Please follow Blackboard deadlines.**

