

# Texas State Technical College Waco

## Course Syllabus

*Course Rubric & Number:* **CSIR 1341**

*CIP Code:* 47.0103

*Course Title:* **Transceiver Troubleshooting I**

*Course Description:* **Practice in performing testing procedures and troubleshooting radio communications systems.**

*Prerequisites:*

*Instructor:*

*Office Phone Number:*

*Email Address:*

*Office Fax Number:*

*Building & Office Room Number:*

*Department Chair:*

*Date:* \_\_\_\_\_

***Learning Outcomes:***

**Discuss the theory of operation required for the simple components used in communication equipment; discuss the operation of simple circuits used in communication equipment; and from schematics, troubleshoot simple circuits used in communications equipment.**

***TSTC Grading Policy:***

(Grades for all Major courses must be C or better)

<b>Grade</b>	<b>Percent</b>	<b>Description</b>	<b>Grade Points</b>
A	90-100	Excellent/Superior Performance Level	4
B	80-89	Above Required Performance Level	3
C	70-79	Minimum Required Performance Level	2
D	60-69	Below Required Performance Level	1
F	Below 60	Failure to meet Performance Requirements	0
IP	--	In Progress	
W	--	Withdrawal	0
CR	--	Credit	0
AUD	--	Audit of Course	0
See College Catalog for complete descriptions.			

***Instructor's Participation Policy:***

Regular attendance is expected of all students. Class attendance requirements are determined by instructors; therefore, students should ascertain each instructor's attendance policy on the first day of class.

Attendance requirements for this course are as follows:

- Students are expected to attend all sessions of the class;
- Students having absences equal to or greater than twenty (20) percent of the total class meetings will be issued a course grade of F.
- Students who receive Veteran's Administration benefits must conform to attendance and academic standards established by the Veteran's Administration. Information concerning requirements for Veteran students may be obtained from the Veteran's Certification Officer.

***Students with Disabilities:***

If you have a documented disability that will impact your work in this class, please contact the Office of Deaf and Disabled Student Services (D/DSS) so that appropriate arrangements for your accommodations can be made. In accordance with the federal law, a student requesting accommodations must provide documentation of his/her disability to D/DSS. For information, visit D/DSS in the Fentress Center or call (254) 867-3600.

Once you and a D/DSS representative have signed a Letter of Special Accommodations, take the accommodations letter to each class for which an

accommodation has been determined. Meet individually with each class instructor to discuss accommodations letter. Have the instructor sign and keep a copy of the letter. Take the original letter, signed by the instructor, back to D/DSS so they are aware that the instructor has been officially informed of the need for accommodations.

**Course Schedule:**

Week	Lecture Activity	Lab Activity	Test	Grade Percentages		
				(40%) Lab	(40%)* Tests (5%) Quizzes	(5%) Home Works & (10%) Participation
1.	Cover syllabus Begin Safety Lecture. Discuss basic communications systems.	<u>Lab 1:</u> Computer Lab 11.				
2.	Discuss the selection and use of the proper test utilized with an AM transceiver. equipment.	<u>Lab 2:</u> Computer Lab 12.	Exam 1			
3.	Discuss the basic receiver testing procedures for an AM transceiver.	<u>Lab 3:</u> Begin performing basic receiver testing procedures on an AM transceiver.				
4.	Identify a basic receiver block diagram of an AM transceiver.	<u>Lab 4:</u> Continue performing basic receiver testing procedures on an AM transceiver.				
5.	Identify basic receiver circuits of an AM transceiver.	<u>Lab 5:</u> Continue performing basic receiver testing procedures on an AM transceiver.	Exam 2			
6.	Discuss the basic transmitter testing	<u>Lab 6:</u> Begin performing basic				

Week	Lecture Activity	Lab Activity	Test	Grade Percentages		
				(40%) Lab	(40%)*:** Tests (5%) Quizzes	(5%) Home Works & (10%) Participation
	procedures for an AM transceiver.	transmitter testing procedures on an AM transceiver.				
7.	Identify a basic transmitter block diagram of an AM transceiver.	<u>Lab 7:</u> Continue performing basic transmitter testing procedures on an AM transceiver.				
8.	Identify basic transmitter circuits of an AM transceiver.	<u>Lab 8:</u> Begin performing voltage measurements on an AM transceiver.	Exam 3			
9.	Identify the basic block diagram of a PLL used in an AM transceiver.	<u>Lab 9:</u> Continue performing voltage measurements on an AM transceiver.				
10.	Discuss the basic PLL testing procedures for an AM transceiver.	<u>Lab 10:</u> Continue performing voltage measurements on an AM transceiver.				
11.	Identify basic PLL circuits of an AM transceiver.	<u>Lab 11:</u> Continue performing voltage measurements on an AM transceiver.	Exam 4			
12.	Begin discussing troubleshooting procedures of an AM transceiver.	<u>Lab 12:</u> Begin performing troubleshooting procedures on an AM transceiver.				
13.	Continue discussing troubleshooting procedures of an AM transceiver.	<u>Lab 13:</u> Continue performing troubleshooting procedures on an AM transceiver.				
14.	Finish discussing troubleshooting procedures of an AM transceiver.	<u>Lab 14:</u> Finish performing troubleshooting procedures on an AM transceiver.	Exam 5			

Week	Lecture Activity	Lab Activity	Test	Grade Percentages		
				(40%) Lab	(40%)*:** Tests (5%) Quizzes	(5%) Home Works & (10%) Participation
15.	Make-up and review.	<u>Lab 15:</u> Make Up				

**Grading Scheme:**

Activity	Percent
Labs	40%
Exams	40%
Pop Quizzes	5%
Homework	5%
Participation	10%
<b>Total Possible Percentage for Course</b>	
<b>100%</b>	

A = 90 – 100

B = 80 – 89

C = 70 – 79

D = 60 – 69

**Telecommunications Maintenance Technician (TMT) SKILL STANDARDS**

This course contains the following key activities from the TMT Skill Standards:

Perform technical analysis to determine operational effectiveness. (2.1)

Utilize available resources to solve equipment problems. (2.2)

Perform maintenance on telecommunications equipment as required. (4.1)

Perform required job components while adhering to safe procedures. (6.1)

**Course Policies:**

1. It is very important to be in class as required by your schedule. Make absolutely sure your attendance is in good standing at all times. The Texas State Technical College and the Electronics/Telecommunication Technologies attendance policy will be **strictly enforced** in all of the above courses. If you are unable to attend for any reason, let your instructor know in advance or as soon as possible. Attendance will affect your grade.

2. The attendance policy for this technology is stated as: **“If a student has accrued absence totaling 20% or more of the class periods, the instructor will assign the student an “F” on the final grade roster. This policy does not affect the right of the student to drop a course before the mandated deadline or the right of the instructor to assign, with approval of the department chair, an IP under the appropriate extenuating circumstances. Responsibility for dropping a course lies solely with the student.”**
3. Students who receive Veteran's Administration benefits must conform to attendance and academic standards as established by the Veteran's Administration. Inquiries concerning requirements for attendance, satisfactory progress, certification of benefits and all other questions affecting veteran students may be obtained from the Veteran's Affairs Officer located in the Student Records Office.
4. If there is a special reason for your absence, please advise the instructor. It is only with the approval of the instructor an excused absence may be received. If possible, provide some written proof to verify your excuse. You are still responsible for any or all materials covered in class during the time you are absent. **On returning to class, all homework will be turned in and all exams will be taken that day. All labs will be done within a week from that day. This is your responsibility and failing to comply will earn you a zero!!** Failure to comply with the attendance policies may result in a student being dropped or earning a failing grade.
5. Positions in the lab may be assigned to each student. Please keep your workstation and study areas neat, clean, and in good order. Neatness is part of each course. Other students need access to these areas too!! Points will be taken for each time areas are left not picked up. We request that you make no marks or cuts with any tool or device into the benches or study stations. These areas have been checked and cleaned. This is considered defacement of state property and is unlawful. This also counts as part of your neatness grade.
6. Breaks will be taken according to the instructor's discretion. Please do not stay out longer than the class. An excessive long break will result in a student being counted absent.
7. The use of all tobacco products is only allowed in the designated outside areas. According to the state law, smoking within 20 feet of any public entrance is strictly prohibited. Tobacco products are not allowed in the classroom or lab. This includes **dipping, chewing,** and **smoking.** Put all waste materials in their proper receptacles. Do not throw cigarette butts on the floor or on the ground. Put all of these items in the proper receptacles. Do not spit tobacco on the concrete. Use a can and dispose of it properly when you are finished.
8. In case of an emergency, which may cause evacuation of the building, please do so in an orderly fashion. Use the exit closest to you. Do not leave, but remain outside within a reasonable safe distance from the building. All exits are marked for your convenience and safety. Fire extinguishers and circuit breakers are located in accessible positions. These are marked and will be pointed out.

9. Contingency plans in the event that the official visit necessitates shutting down the campus east of Airline Drive for ELT/TEL students attending classes in the TEL building. If the TEL building is closed, students should proceed to the EEOC (Electrical/Electronic Office Center) and meet with their instructor or advisor there. Students will then be directed to an available classroom or lab. Questions should be directed to the ELT/TEL Department at 254-867-4883 or 254-867-4863.
10. Student parking is provided for you. Please obey the reserved parking areas, traffic signs and regulations on campus. If you receive any fines (traffic violations, library fees, etc.) take care of them immediately. Your privileges on campus can be jeopardized if you fail to obey the regulations and policies in regards to these items.
11. From time to time, special handout sheets will be distributed to all students. It is expected you will insert these into your notebook for future reference after studying them carefully. It is possible this material may be covered on an examination.
12. Daily quizzes may be given, as well as major exams. These may be oral or written. They may also involve lab work. Any material covered is subject for exam. Major exams will be given covering each course. You will have sufficient time to study for any major examination. You are encouraged to take notes in class. Some material for the exams may only be covered in lecture.
13. It is required that you remove your sunshades, hats and caps when entering or participating in the classroom or lab. You may not wear clothing supporting vulgarity or profanity. Also profane or vulgar language will not be tolerated. This is only a minor requirement we ask of you, as it simply shows proper courtesy and respect for others.
14. Due to safety regulations, shorts and open toe shoes are not permitted in some labs. Safety glasses may be required for some labs as well as other safety equipment. Check with your instructor for each individual class requirements for safety equipment. Unsafe practices and violations of safety procedures can have you expelled.
15. Alcoholic beverages and other drugs are also very dangerous and will not be tolerated in this class. Personnel under the influence of these substances during class will be required to leave. Not only are you dangerous to yourself, but to others as well. If the personnel do not leave when requested, they will be removed by the security department.
16. Sleeping in class is not acceptable. If you feel the urge to sleep, get up, walk around, or get a drink of water in order to remove the sleepy feeling.
17. Please do not interfere or "butt in" to any conversation your instructor may be having with any guests or visitors to this class. These people have come to tour our facilities or some other specific reason.

18. Cheating will not be tolerated in any form, including plagiarism.
19. This list is only a partial list of the requirements. For a complete reading and explanation of our policies and procedures, look in the TSTC *Student Handbook*. This information may also be accessed on the world wide web at:  
[http://waco.tstc.edu/current/academic\\_info/student\\_code\\_conduct.html](http://waco.tstc.edu/current/academic_info/student_code_conduct.html).
20. All of these rules mentioned are for the betterment and comfort of all personnel residing within the confines of this building. Your cooperation and assistance regarding these matters will be greatly appreciated. It should make the surroundings pleasant and worthwhile.
21. On behalf of all the staff of the Electronics/Telecommunications Technologies, we wish you the best and hope your training here is fulfilling and enjoyable. Please remember to use the labs wisely and safely at all times. You, the student, are important to us, so feel free to talk with us at any time you are confronted with a problem. If we cannot help you, we at least will try to guide you in the correct direction.

***DISCLAIMER***

**Texas State Technical College, its agents and employees hereby disclaim all warranties, both express and implied warranties, associated with the services that Texas State Technical College provides in its distance learning programs. It is the responsibility of the student and/or the buyer of the services to follow all warnings and instructions that accompany the distance learning program materials. It is also the responsibility of the student and/or the buyer of the services to follow all warnings and instructions provided by the manufacturer of any equipment used, by the student or buyer of services, to facilitate the completion of distance learning programs. Texas State Technical College shall assume no liability for any damages or injuries resulting from failure to read and/or comply with all instructions and warnings.**

***CONTINGENCY PLANS IN THE EVENT THAT AN OFFICIAL VISIT NECESSITATES  
SHUTTING DOWN THE CAMPUS EAST OF AIRLINE DRIVE***

**AER** – Students who scheduled for labs in the Aviation Maintenance Hangar (building 9-1) should report to the Aerospace Center conference room for further instructions. Questions should be directed to the AER office at 254-867-4851.

**APT** – Students who are APT ground classes will report to their regularly-scheduled classes. Students who are scheduled to fly should contract their flight instructors about rescheduling. Flight instructors can be reached at 254-867-2604. Other questions should be directed to the APT office at 254-867-2604.



**DA** – Dental Assistant students should proceed to the library and meet with the DA faculty and staff there. At the library, assignments will be given out to utilize library resources or students will be directed to available classrooms for lectures. Questions should be directed to the DA office at 254-867-4864.

**ELT/TEL** – Students in Electronics/Telecommunications should proceed to the Electrical/Electronics Office Center and meet with ELT/TEL faculty and staff there. Students will then be directed to available lecture or lab facilities. Questions should be directed to the ELT/TEL office at 254-867-3383.

**IME** – Students in Industrial Maintenance and Engineering should proceed to the Aerospace Center student breakroom. Students will then be directed to available lecture or lab facilities. Questions should be directed to the IME office at 254-867-4872.

**LET/SMT** – Students who are scheduled for LET/SMT activities in closed-off areas (HIDPL, SSL, Quonset Hut) should proceed to the LET Conference Room in the Electrical/Electronics Office Center for further instructions. Questions should be directed to the LET/SMT office area at 254-867-4857.

**MATH** – Students who are in math classes should proceed to the Electrical/Electronics Office student lounge, where they will be directed to available classrooms for lectures. Questions should be directed to the Math Department office at 254-867-4876.

