

Technical College of the Lowcountry
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AVT 102 INTRODUCTION TO AVIONICS

Course Description

This course presents an introduction to the major phases of avionics from navigation, communication, and surveillance to sophisticated systems using state-of-the-art sensors and computations. Basic procedures and practices are also introduced, in addition to relevant abbreviations and acronyms.

3 Credits (3 lec/pres, 0 lab, 0 other)

Course Focus

Students will learn Avionics, Systems, Installation and Troubleshooting.

Text and References

Avionics Training: Systems, Installation and Troubleshooting, 2nd edition.
Buckwalter, L. (2012). Avionics Communications Inc. Leesburg, VA.
ISBN: 978-188554421-6

Course Goals

The following list of course goals will be addressed in the course. These goals are directly related to the performance objectives (Addendum A). (*designates a CRUCIAL goal)

- *1. understand the meaning of avionics
2. understand avionics history
- *3. define blind flying
4. define morse, bell, hertz contributions
5. demonstrate transponder knowledge
- *6. describe acceptable vhf radios
7. describe navcom connections
8. depict aviation band frequencies
9. depict finding position
10. depict time difference measurement
11. depict vhf system
12. detail radar altimeter
13. detail satellite navigation
- *14. discuss adf limitations
15. depict was system
16. comprehend tcas system
17. define splitting vhf channels
18. demonstrate interrogator knowledge
19. discuss automatic direction finder
20. discuss microwave landing system
21. discuss test troubleshooting skills

22. display knowledge of instrument landing
- *23. display knowledge of panel labels
- *24. display knowledge of vor
25. explain airline control panel
- *26. explain hf datalink
- *27. explain satellite communications
28. interpret aircraft earth station
29. interpret ground earth station
- *30. know basic knowledge of radar altimeter
31. know basic knowledge of transponder
32. know basic instrument landing
33. learn basic information on flight data recorder
- *34. learn satellite navigation
35. learn basics on efis
- *36. obtain distance
- *37. recognize weather detection terms
38. reference how to mount avionics equipment
- *39. relate basic knowledge of airplane wiring
- *40. comprehend installation plan terminology
41. display basic knowledge of antenna installation
42. obtain airborne ground stations
- *43. relate how to make electrical connections
- *44. relate knowledge of ac/dc power
- *45. relate knowledge of airline electrical system
- *46. study acrs reporting system
47. study emergency locator transmitter
48. study selcal code
49. understand high frequency communications
50. understand vhf communications

Student Contributions

Each student will spend at least 6 hours per week preparing for class and preparing assignments to turn in weekly. Attendance is critical in this class.
Student Attendance Policy: See student handbook within course catalog.

Course Evaluation

Each week's assignments are worth 100 points and averaged over the semester. Chapter tests are also worth 100 points and averaged at the end of the semester. The final will be 100 points.
Tests: 50% Assignments: 45%
Timeliness/Attendance/Participation: 5%

ADA STATEMENT

The Technical College of the Lowcountry provides access, equal opportunity and reasonable accommodation in its services, programs, activities, education and employment for individuals with disabilities. To request disability accommodation, contact the counselor for students with disabilities at (843) 525-8228 during the first ten business days of the academic term.

ACADEMIC MISCONDUCT

There is no tolerance at TCL for academic dishonesty and misconduct. The College expects all students to conduct themselves with dignity and to maintain high standards of responsible citizenship.

It is the student's responsibility to address any questions regarding what might constitute academic misconduct to the course instructor for further clarification.

The College adheres to the Student Code for the South Carolina Technical College System. Copies of the Student Code and Grievance Procedure are provided in the TCL Student Handbook, the Division Office, and the Learning Resources Center.

ATTENDANCE

The College's statement of policy indicates that students must attend ninety percent of total class hours or they will be in violation of the attendance policy.

"Students not physically attending class during the first ten calendar days from the start of the semester must be dropped from the class for NOT ATTENDING.

" Students taking an online/internet class must sign in and communicate with the instructor within the first ten calendar days from the start of the semester to indicate attendance in the class. Students not attending class during the first ten calendar days from the start of the semester must be dropped from the class for NOT ATTENDING.

"Reinstatement requires the signature of the division dean.

"In the event it becomes necessary for a student to withdraw from the course OR if a student stops attending class, it is the student's responsibility to initiate and complete the necessary paperwork. Withdrawing from class may have consequences associated with financial aid and time to completion. " When a student exceeds the allowed absences; the student is in violation of the attendance policy. The instructor MUST withdrawal the student with a grade of "W", "WP", or "WF" depending on the date the student exceeded the allowed absences and the student's progress up to the last date of attendance

or under extenuating circumstances and at the discretion of the faculty member teaching the class, allow the student to continue in the class and make-up the work. This exception must be documented at the time the allowed absences are exceeded.

" Absences are counted from the first day of class. There are no "excused" absences. All absences are counted, regardless of the reason for the absence.

"A student must take the final exam or be excused from the final exam in order to earn a non-withdrawal grade.

" A copy of TCL's STATEMENT OF POLICY NUMBER: 3-1-307 CLASS ATTENDANCE (WITHDRAWAL) is on file in the Division Office and in the Learning Resources Center.

HAZARDOUS WEATHER

In case weather conditions are so severe that operation of the College may clearly pose a hardship on students and staff traveling to the College, notification of closing will be made through the following radio and television stations: WYKZ 98.7, WGCO 98.3, WGZO 103.1, WFXH 106.1, WWVW 106.9, WLOW 107.9, WGZR 104.9, WFXH 1130 AM, WLVA 101.1, WSOK 1230 AM, WAEV 97.3, WTOG TV, WTGS TV, WJWJ TV, and WSAV TV. Students, faculty and staff are highly encouraged to opt in to the Emergency Text Message Alert System. www.tcl.edu/textalert.asp

Emergency Text Message Alert

Students, faculty and staff are highly encouraged to opt in to the Emergency Text Message Alert System. Participants receive immediate notification of emergency events and weather cancelations via text messaging on their cell phones. Participants can also opt in to receive non-emergency news and announcements. Go to www.tcl.edu. On the homepage, click on "emergency TextAlert at TCL" and fill out the form or go to www.tcl.edu/textalert.asp