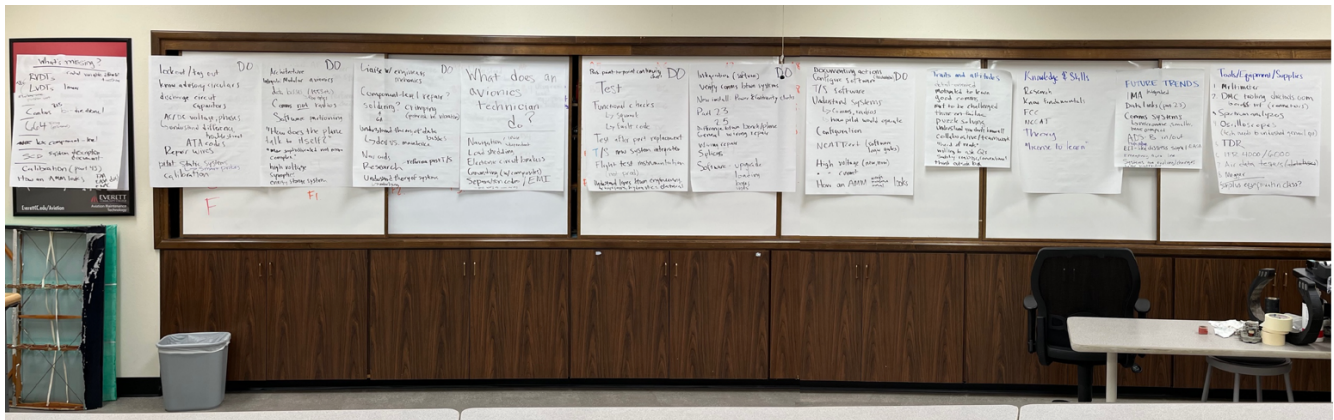


DACUM Research Chart for Advanced Avionics Technician



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DACUM Research Chart for Everett Community College's Advanced Avionics Program

DUTIES

TASKS

<p>Research Aircraft Faults</p> <p>A</p>	<p>A.01 Gather info on systems</p>	<p>A.02 Review theory of systems</p>	<p>A.03 Analyze wiring diagrams & manuals</p>	<p>A.04 Understand aircraft history</p>	<p>A.05</p>	<p>A.06</p>	<p>A.07</p>
<p>Find Aircraft Faults</p> <p>B</p>	<p>B.01 Perform continuity checks</p>	<p>B.02 Inspect system</p>	<p>B.03 Detect path of influencend /critical path</p>	<p>B.04 Test aircraft with ramp equipment</p>	<p>B.05 Perform operational checks/function-al checks</p>	<p>B.06 Review aircraft fault codes</p>	<p>B.07</p>
<p>Repair/Solve/Fix Aircraft Faults</p> <p>C</p>	<p>C.01 Remove & replace faulty boxes</p>	<p>C.02 Repair wiring</p>	<p>C.03 Replace electromechanical components</p>	<p>C.04 Document repair action</p>	<p>C.05 Test system after repair</p>	<p>C.06</p>	<p>C.07</p>
<p>Work Safely</p> <p>D</p>	<p>D.01 Perform lockout/tagout procedures</p>	<p>D.02 Follow workplace safety procedure</p>	<p>D.03 Maintain clean environment</p>	<p>D.04 Apply ergonomic principles</p>	<p>D.05 Follow hazmat rules</p>	<p>D.06 Use personal protective equipment</p>	<p>D.07 Follow foreign object elimination procedures</p>
<p>Understand Data Bus Software Configuration</p> <p>E</p>	<p>E.01 Understand theory of data bus for aircraft</p>	<p>E.02 Verify comms btwn systems</p>	<p>E.03 Load software configuration</p>	<p>E.04 Download software from aircraft systems</p>	<p>E.05</p>	<p>E.06</p>	<p>E.07</p>
<p>Perform Pitot Static Transponder Checks</p> <p>F</p>	<p>F.01 Review pitot static systems</p>	<p>F.02 Perform transponder pitot static checks</p>	<p>F.03 Flight test instrumentation calibration</p>	<p>F.04</p>	<p>F.05</p>	<p>F.06</p>	<p>F.07</p>
<p>Install New Systems</p> <p>G</p>	<p>G.01 Install & route new system wiring</p>	<p>G.02 Understand seperation of power lines & electromagnetic interference</p>	<p>G.03 Liaise with mechanics & engineers</p>	<p>G.04 Troubleshoot new system integration</p>	<p>G.05 Check power & continuity on new installations</p>	<p>G.06</p>	<p>G.07</p>
<p>Maintain High Voltage High Current Systems</p> <p>H</p>	<p>H.01 Understand complexities of high voltage & high current</p>	<p>H.02 Maintain energy storage systems</p>	<p>H.03</p>	<p>H.04</p>	<p>H.05</p>	<p>H.06</p>	<p>H.07</p>

General Knowledge

AC/DC voltage, phases
electronic circuit breakers
troubleshoot LVDTs linear
troubleshoot RVDTs
variable differential transformer
GA soldering?
difference btwn bench/plane
squawk
"how does the plane talk to itself?"
data busses fiber optics (1553 etc)
canbus 825 bi-directional
664 erring (ethernet)
bus wires vs. wires
smart probes
part 25
part 23
know advisory circulars
how an AMM (aircraft maint manual) looks
airman Certification ks5 component - level
FAA docs
EASA docs
how an AMM looks
calibration (part 43)
system description document (SCD)
flying a/c not complying with ICAO standard ENAC
ATA codes
comms, radios
indie navigation
integrated modular avionics
comms not radios
nav aids
dependent navigation
how pilot would operate
grounding (w/ composites)
fly-by-wire
aircraft configuration
position unit
development vs. maintenance
discharge circuit capacitors
load shedding

Traits and Attributes

detail-oriented
motivated to learn
good comms
want to be challenged

Traits and Attributes cont.

puzzle solving
understand you don't know all
collaborative/teamwork
willing to ask questions
safety: realistic, conventional
think outside box

Knowledge & Skills

research
know fundamentals
FCC
NCCAT
theory
"license to learn"

Future Trends

integrated IMA
datalinks (part 23)
comms systems
microwave, smaller, more compact
ADS-B in/out
high voltage
ELT - like distress signal EASA
emergency auto line
systems are evolving/changes
less hydraulics

Tools/Equipment/Supplies

multimeter
DMC tooling dmctools.com
cross-ref (connectors)
spectrum analyzers
oscilloscopes (tech needs to understand general op:
TDR
IFR 4000/6000
air data testers
megger
surplus equipment in class