

**PROGRAM SCHEDULE A – PART I**  
**Plan Reading & Introduction to Estimating**

**Day 1 – Morning session (9:00 am – 1:00 p.m.)**

- Introduction
- How to sharpen bidding through plan reading And estimating
- How to read blueprints, symbols, plans, elevations, And scales
- Plan reading – schedules, sections, isometrics
- Drawings – structural, mechanical, electrical, civil
- Specifications – important checklist – C.S.I.
- Video – Construction of LC 39 – VAB

**Day 2 – Workshop – (9:00 a.m. – 1:00 p. m.)**

- Blueprint Reading Exercises
- Concrete Masonry Project – Questions
- PSCOL Bid Problems
- Inspector's Field Office

**Day 3 – (9:00 a.m. – 1:00 p.m.)**

- Review problems, answers, discussion
- Plan Readings, faster and better
- Three speeds of plan reading
- Video – scales, measure

**Day 4 – (9:00 a.m. – 1:00 p.m.)**

- Richardson's Rules
- Walker's Handbook (optional NIC)
- Interior Finishes – Q & A
- References – some free
- Glossary of Terms – 17/150

**Day 5 – (9:00 a.m. – 1:00 p.m.)**

- Crews – workhours
- HVAC – ductwork or structural steel
- General Construction – Markups
- Pop Quiz
- Video – Aerospace Construction Cost Estimating

**YOU WILL LEARN:**

- How to read blueprints
- How to prepare a detail cost estimate
- How to read and make a quality survey
- How to use an 86-item unit price schedule for the PSCL Project

**WHO SHOULD ATTEND?**

Anyone with the need to know how to read blueprints and to prepare a cost estimate, such as, sub-contractors, foremen, superintendents, project engineers, craftsmen, carpenters, surveyors, masons, ironworkers, shop foremen, technicians, project managers, plumbers, construction secretaries, and persons preparing for the contractor's licensing exams.

**PROGRAM SCHEDULE B - PART II**  
**Intermediate Cost Estimating**

**Day 1 - (9:30 a.m. - 1:30 p.m.)**

- Introduction
- "How to Sharpen Bidding"
- General Construction - O.H., taxes & insurance, types and purposes of estimates
- Take-off, price-out, markup
- Contractors vs. Government estimating differences – advantages
- Estimating the cost of estimating
- Estimating the cost of A & E Design
- Contingencies

**Day 2 - (9:00 a.m. to 1:00 p.m.)**

- Site work - fill excavation
- Concrete - forms – rebar
- Amazing five-in-one takeoff system
- 25 ways to faster estimating
- Structural steel
- Masonry, roofing, finishes

**Day 3 - Morning session (9:00 a.m. - 1:00 p.m.)**

- Labor productivity
- Bid problems
- "How Does the Low Bidder Get Low" - video or "800 Miles"
- Conceptual Estimating
- Bid Summary

**Day 4 - Customizing, such as:**

- Mechanical & electrical estimating
- KSC Cost Index
- KSC Exciting Estimating Tools
- Space Station Facility case study
- Optional final exam Seminar A & B – 1:00 – 4:00 pm

**Day 5 - Morning Session (9:00 a.m. to 1:00 p.m.)**  
**Computerized Estimating**

- Manual Vs Computer estimating
- Computer estimating systems
- Sample budget and detail estimates
- Future CADD and automatic estimates – video
- Grade final – in class - optional

**SEMINARS A & B**  
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**Joseph A. Brown, CCE**, has prepared and reviewed construction cost estimates amounting to over \$12 billion. He is a graduate of the University of Florida with a Bachelor of Building Construction, BBC (1959). He has been a consultant to commercial, industrial and residential complex interests in several states, including work for the Walt Disney World Contemporary Resort Hotel. He has received the prestigious Astronaut's "Silver Snoopy" for professional excellence and his contributions to the success of the manned space efforts. He has successfully prepared cost estimates for the U.S. Army Corps of Engineers and Air Force facilities. Mr. Brown has written nine estimating workbooks. He is retired from NASA, Kennedy Space Center, where he specialized in construction cost engineering.