NEW ENGINEER?

BACKGROUND

- 30 years of advanced technology and management experience
- All in Fortune 500 companies
- All involving integrated circuits
- Military, Industrial, Commercial and Consumer
- Analog, digital, mixed signal
  - DC -> RF, 77K(-321°F) – 150C(302 ° F), picopower ->PAs

- Largest team: ~3000
- Largest $ controlled: ~$3B

- Mid-career MBA
- Mid-career Ph.D.
- Comfortably retired at 52 – but became bored quickly

- I have a vested interest in your success

  - My success is dependent on your success

  - I'm here to help make you successful
      but don't be confused
    I won't let you drag me down

5 AXIS

- Technical Competence

- Work Ethic

- Trust

- Representation

- Fun

TECHNICAL COMPETENCE

- Learn / understand the problems
- Learn / understand the technology
- Learn / understand the tools
- Learn / understand the process
- Learn / understand the processes

You should understand WHY

Being technically competent takes a lot of work and time
        your reading/studying days are just beginning

TECHNICAL COMPETENCE
TRY – THEN ASK

- When confronted with something you don't know or understand

- First spend an <u>appropriate</u> amount of time trying to figure it out yourself
  - You will learn most of the things that really matter this way

- Ask, if you can't figure it out

- Balance between
  - Showing you can operate independently
  - Taking up time from more senior engineers
  - Slowing down the project

TECHNICAL COMPETENCE UNDERSTAND THE ASSIGNMENT

- Listen carefully
  - Take notes

- Ask questions
  - When is it due?
    - Any milestones?
    - When should I check in?

  - What is expected?
    - Performance – power, speed, size, cost, …
    - Documentation

  - Who am I working for/with
    - Where should I get help

TECHNICAL COMPETENCE DOCUMENT

- Keep an engineering notebook
  - Physical or electronic
  - Use it in-situ not as a final report
- Track
  - Ideas
  - Calculations
  - Tradeoffs
  - Decisions

- Keep organized computer files
  - Spreadsheets, simulations, programs, presentations, emails, …

WORK ETHIC
TIME MANAGEMENT

- Get organized
  - Project task list with milestones
  - Weekly task list
  - Daily task list

- Ask how long something should take
  - Eventually you will know this from experience / extrapolation

- If you have free time
  - Ask for more work
  - Ask if anyone could use a hand

WORK ETHIC
QUALITY OF WORK

- Do QUALITY work
  - No shortcuts
  - No half-a** designs, reports, …
  - Do it right the first time
  - Ask for more time if possible
  - Spend personal time if necessary

WORK ETHIC

- Presentations are important

- Persuade vs. argue

- Ask for more work if you can handle it
- Admit when you are over-extended

- Offer to help others if you can

TRUST NO BS

- Every good engineer and engineering manager can spot BS from a mile away

- Ruins your credibility

- Jeopardizes my program

- Makes the team look incompetent

TRUST
NO SURPRISES

- This was my #1 expectation for EVERYONE who worked for me

- As soon as trouble looks possible – let me know, even if you think you have it under control

- I never want to hear new information in a presentation – let me know

- Good news or bad news – let me know

REPRESENTATION

- How you represent yourself is critically important

- Your technical <u>opinions</u> mean little to me and often show your ignorance
  - Xyz is the best programming language
  - The ABC processor sucks
  - I think this customer is stupid
  - Jkl makes the best radios

REPRESENTATION

- It does not matter what those around you do – it matters what you do

    - Foul language is a clear sign you "don't get it"

    - Disparaging comments about others tells me more about you than them

    - Harassment / discrimination will NOT BE TOLERATED

- SPEAK UP
    - That racy/racist/… joke is not acceptable

REPRESENTATION

- Show you care about your performance

  - Ask for feedback
    - After 1 week
    - After 1 month
    - Every 6 months
    - After completing a project

  - Typically, you will have a development plan
    - Execute it
    - Overachieve if possible

REPRESENTATION

- Be confident – not arrogant

  - Let your work, the data, the facts, make your case

- Be open to new ideas

  - You really know very little at this point

- Don't be afraid to have fun
  - When appropriate

- Make friends
- Try new things

- Your technical reputation will grow
  - You will be recognized as an expert
  - And perhaps more importantly – someone who can become the expert
- Your personal reputation will grow
- Your ethical reputation will grow
- You will be in demand

- YOU will get to chart your professional coarse