The Process of Design (Design Methods)

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EE 4900 – Design Methods

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MichiganTech

Project Management Reminder

- Weekly status updates to sponsor, cc advisor. E-mail, keep it concise, use bulleted lists. Recommended 4-part format:
  1. Work completed
  2. Ongoing tasks, who's doing what, problems being grappled with, anticipated completion.
  3. Upcoming tasks, anticipated difficulties, resources needed.
  4. To-do list, urgent requests, things with significant lead times that must be initiated now.
- End of calendar month is approaching
  - Monthly updates of hours
  - Monthly update of budget
  - Monthly update of schedule

Leading vs. Managing

- Project Management = Administrator ?
  - Contracts, budgets, client relations
  - Scheduling, manpower assignment
  - Deliverables: high quality, as spec'ed, on time, under budget
  - Keep things running smoothly and efficiently
- Project/Team Leader = Motivator
  - Set a good example for team to follow
  - Make sure every individual also has leadership roles, taking ownership of key part(s) of project.
  - Put together productive team based on individual strengths and personalities.
  - Everyone on "same page," compliments and rewards.

What is a Successful Team?

- A group of imperfect people who find a way to work well together.
  - Know each other on a personal level.
  - Understand each other's strengths and weaknesses, both professionally and personally.
  - Everyone does their fair share – both for technical and non-technical !
  - Keep a "low threshold," communicate freely; don't let the little things bother them.
  - Most important – good sense of humor.
  - Survive the stress test at crunch time.
- Initial Stages of new team, new project:
  - Forming
  - Storming
  - Norming
  - Performing

Leadership

- Glen Archer, invited speaker
  - Leadership is present in all teams, all activities, and at all levels
  - Motivation gets things moving
  - Completion and quality depend on **Execution and Followup**
  - Glen will share some of his experience based on his career in the Air Force.

Budgeting

- Budgeting Constraints
  - Up to $3,500 may be directly requested via your faculty advisor and Dr. Wiitanen. Accounts are initially loaded with $1000.
  - Budget Request and Justification Memo must be provided and approved for any budget request or modification.
  - Add'l funds, if needed, should be requested from sponsor. If sponsor cannot come up with funds, check with Dr. Wiitanen to see what might be possible.
- Budget Spreadsheet
  - Provide a column for projected/approved budget
  - Another column for actual costs / encumbrances.
  - A third column for funds paid out, actual balance.
- Budget Request/Justification cover memo
  - Be succinct! Half a page should be plenty, one page max.
  - Justify why funds need to be spent, not just how much.
  - Organize your argument in bulleted lists so it is clear and quick to read.

Project Scheduling

- Critical Path Scheduling
  - Gantt Chart
  - Break project down into tasks
  - Parallelize things as much as possible.
  - Start with completion date and milestones and work backwards from there.
  - Constrained by Resources
    - Personnel
    - Supplies, materials, equipment, subcontractors
- Linking tasks
  - Predecessors and successors
  - Don't let project "go critical."

Time Management

- Which mode of operation is best?
- Most of us spend way too much time on **important-urgent** category, i.e. in **CRISIS MODE**.
- Better – start early, spend most time on "**Important but not yet Urgent.**"

From "Seven Habits of Highly Effective People"