

Engineering Problem Solving
ENG1001 - Session B-3

Engineering Communication & Teaming

Session Agenda

- E-mail (Review)
- Memo writing (Review)
- Form Teams
- Team Building
- Team Design Problem

E-mail Headers - **REVIEW**

- Date: automatic when e-mail is sent
- From: automatic
 - fill in HuskyMail *options* -> *personal information*
- To:
- CC:
- BCC:
 - What is the difference between To, CC, BCC?
- Subject: short description - don't leave blank

REVIEW - E-Mail Protocol

When Addressing Instructor

- **Subject:** State course number, section and BRIEF summary of question
- **CC:** CC teammates when the question is regarding a team assignment
- **Message Body:**
 - Address instructor and summarize problem/question
 - Let instructor know if/when you would like a response
 - "Sign" Message with:
 - Your Name
 - Course Number, Section Number and Team Number

Memo Format - **REVIEW**

MEMORANDUM

Date: Date written

To: Receiver's name, title

From: Name, team & section #. *FML* - Initial next to name

Subject: Subject

CC: Others that received this memo

Start the memo with an executive statement.

Executive Statement - **REVIEW**

- An executive statement is a 1 or 2 sentence paragraph describing the purpose of the memo and its contents.
- Example:

“Several of you have been having problems with longish delays in picking entities when using AutoCAD. Here are some suggestions:”
- Avoid writing “The purpose of this memo is...”

Writing Better Executive Statements

- Okay

“The purpose of this memo is to summarize the designs and sketches that we have completed to date.”

- Better

“To date we have completed preliminary designs and sketches of our mousetrap car. Our design ideas are briefly discussed below.”

Writing Better Executive Statements

- Good

“This memo concludes our work on our team management plan and our time line.”

- Better

“This is in response to the team homework assigned Friday, July 4th concerning a team management plan and timeline. Our team has developed both a management plan and time line to help us complete our design project.”

As a team...

- Good

“When we were deciding as a group how to build our car, we came up with a lot of the same ideas on what we thought was best to achieve a good grade on this project. The idea is that everyone agrees on how we should make our car. This memo will discuss how we got to that point.”

- Better

??

One Way...

- Good

“When we were deciding as a group how to build our car, we came up with a lot of the same ideas on what we thought was best to achieve a good grade on this project. The idea is that everyone agrees on how we should make our car. This memo will discuss how we got to that point.”

- Better

“One of our team objectives is to receive a good grade on this project. To meet this objective, we need to have a good design that all of our team members agree on. Our process for coming up with such a design is outlined in the following paragraphs.”

Enclosures to a Memo - **REVIEW**

- Enclosures - other documents accompanying the memo
- Must be referenced **IN** the body of memo
 - “The raw data, calculations and resulting graphs can be found in the enclosed document. The graphs show that ...”
- Site important items/results that are in the enclosed document
- Indicate additional documents with the word **Encl.** and a description typed at the bottom of the memo

Teaming

Let's get into your teams!

Team Definition....

- A team is a **small group** of people with **complementary skills** who are committed to **a common purpose, performance goals and approach** for which they hold themselves **mutually accountable**.

Team Building

- Structure
- Stages of team development
- Norms
- Code of Cooperation

Typical Team Structure

- Sponsor – translates mission into action
- Team Leader – responsible for what is to be accomplished and how
- Facilitator – chauffeur
- Recorder – keeps track of details
- Team Members – work together to achieve a goal

Stages of Team Development

- Forming (orientation)
- Storming (conflict)
- Norming (cohesion)
- Performing (performance)
- Adjourning (dissolution)

Forming (orientation)

- Tentative interactions
- Polite discourse
- Concern over ambiguity
- Self-discourse

Storming (conflict)

- Criticism of ideas
- Poor attendance
- Hostility
- Polarization or Coalition forming

Common Team Problems (Student Perspective)

- One of my teammates never comes to class
- One of my teammates never participates
- No one comes to the meetings prepared to work
- One of my teammates is rude
- Most of my teammates want to skip steps and rush to the last part

Norming (cohesion)

- Agreement on procedures
- Reduction in role ambiguity
- Revision of team "rules" based on team experience
- Increased "we" feeling

Common Team Solutions

Performing (performance)

- Decision-making
- Problem solving
- Mutual cooperation
- High task orientation
- Emphasis is placed on performance and production

Adjourning (dissolution)

- End of team function
- End of the semester

What is a "Norm"?

- Like a rule or a standard
- Often unwritten, widely applied without argument
- Are often different in different cultures and often change over time
- Examples???

- For our teams, Norms ARE written in a Code of Cooperation

Code of Cooperation

- Governing rules for team's behavior
 - Sets norms for individual behavior
 - Sets norms for appropriate team interactions
- Includes appropriate rewards and sanctions
- Developed by the team
 - Updated/modified on a continual basis
 - Accessible to all team members

Academic Integrity

- MTU Student Handbook
- www.mtu.edu/studenthandbook
- Not all homework is team homework
 - Treat all academic exercises as work to be conducted privately, unless otherwise instructed
- Collaboration and computer files
 - Shared computer files is considered cheating and will result in a 0 grade for that assignment

Academic Dishonesty

- Includes:
 - Plagiarism
 - Cheating
 - Fabrication
 - Facilitating
- Penalty:
 - not less than academic integrity warning
 - not more than expulsion