

GNG1103 – Engineering Design **GNG1503 – Génie de la conception**

Team Work & Conflict Management

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Agenda

- Reminders
- Reminder: High Flying Team & Energies in a Team
- **Review Questions**
- **Team Conflicts: Types, Sources, Resolution Process**
- **Five Conflict Management Styles**
- **Matching Conflict Styles to Situations**
- **Group Activities on Conflict Management**

Reminders

- **Quiz 2** (covers Lecture 4, 6, et 7): [Jan. 29](#)
- **Lab 4** (Project): [This week](#)
- Due date of **Project Deliverable C** (Design Criteria): [Feb. 02](#)
- **Project Plan** (Week 4,6,8,10): [Weekly review & update](#)
- What is your summary of **Lecture 6**?
 - Definitions: Design criteria, metrics, specifications
 - Importance of Benchmarking
 - Process of engineering design specification (EDS)
 - EDS template (Functional + Constraints + Non-functional)
 - Best specifications

Review Questions

1. As a member of a design team, you are well aware that conflicts can arise within the team at any time. In case of conflicts, what are the steps in the **resolution process** that you would follow?
2. List **four elements** that influence the **choice of conflict management style**.
3. For each conflict statement in the table below, associate the most appropriate **conflict management style** and justify your choice.

#	Conflict Statement	Appropriate Conflict Management Style
1	You are in a team of 5 engineering designers. One of your team members always arrives 5 minutes after the start of your weekly team meetings which takes place every Friday at 7pm. The delay does not affect the progress of the project and the meeting.	
2	You work in a team on your design engineering course project. You must submit a deliverable in less than 24 hours and one of your teammates did not do his tasks that should be included in the deliverable.	
3	You work in a team on a project and your task depends on that of a teammate who has not started yet. You still have enough time to complete your task.	



Reminder: High Flying Teams

- Diversity:
 - Personalities, culture, education and experience
 - Different ways of thinking, strengths, knowledge and skills
 - Reduces the likelihood of **weaknesses**
- Organization, punctuality and quality of work:
 - Creates a **positive environment**
 - Personal success comes from **trust in your team**
- Active and on-going communication
- Respect, support and an open mind
- Enthusiasm



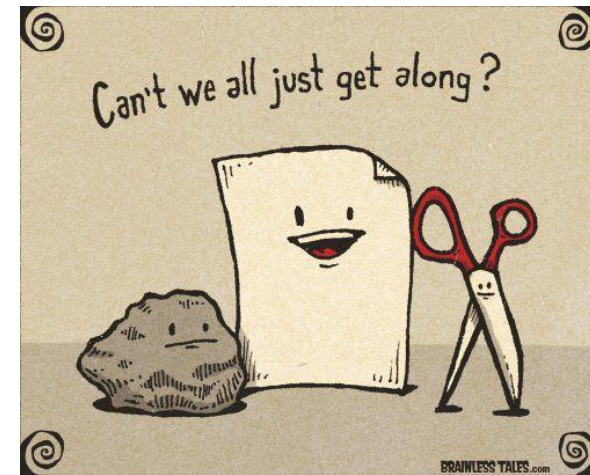
Energy in a Team

- Effective teams transform **latent individual energies** into **team energy**.
$$E_T = E_P + E_S + E_M + E_R$$
- Effective teams always strive to **minimize** residual energy
- How to catalyze individual energies to form team energy and secure team life and productivity?
 - Make sure that all team members **perceive and value the common target**.
 - Create **healthy interpersonal relationships** in the team.
 - Strive to **dispel obstacles** that impede the smooth functioning of the team.
 - Encourage each team member to **get involved in the group**.



Team Conflict

- **Healthy** and **constructive conflict** can help **promote success** and **innovation**
- Teams with **diverse viewpoints**, **experiences**, **skills** and **opinions**, will usually be more successful than teams with similar individuals
- However, team members must be **open** to these differences
- Different **sources** of conflict
 1. Incompatible goals
 2. Differentiation
 3. Interdependence
 4. Scarce resources
 5. Ambiguous rules
 6. Poor communication



But What Happens When It Doesn't Work So Well?

- A **conflict resolution process** is required
- The human experience of conflict typically involves:
 - Our **emotions**
 - Our **perceptions**
 - Our **actions**
- **Negative experiences** must be replaced with **positive experiences**
- Teams can do this using a **three-step process**
 1. Preparing for the resolution
 2. Understanding of the situation
 3. Reaching an agreement



Step 1: Prepare for Resolution

- **Acknowledge** the conflict
 - Cannot be managed and resolved otherwise
 - Tendency is to **ignore** (which makes the situation worst)
- **Discuss the impact** it has on team dynamics and performance
- Agree to a **cooperative** process
 - Everyone involved must agree
 - Opinions and pride must be temporarily set aside
- Agree to **communicate**
 - People involved must talk about the issue
 - Active listening is essential!

Step 2: Understand the Situation

- **Clarify** positions
 - Get through the **emotions** and reveal the **true issue**
 - Everyone's position must be identified and articulated
- **List facts**, **assumptions** and **beliefs** underlying each position
- **Analyze** in smaller groups (separate alliances)
 - Which facts and assumptions are **true**? Need **more info**?
 - Helps gain a better understanding and may reveal new ideas
 - Remain open and listen, rather than criticize and judge
- **Convene** back as a team

Step 3 – Reach an Agreement

- The team must decide what **decision** or **course of action** to take
- Understanding the facts and assumptions makes **reaching an agreement** easier
- If further analysis and evaluation is required, **create a plan**:
 - Agree on **what** needs to be done
 - By **when**
 - By **whom**
- Make sure the team is **committed** to work with the outcome of the analysis or evaluation



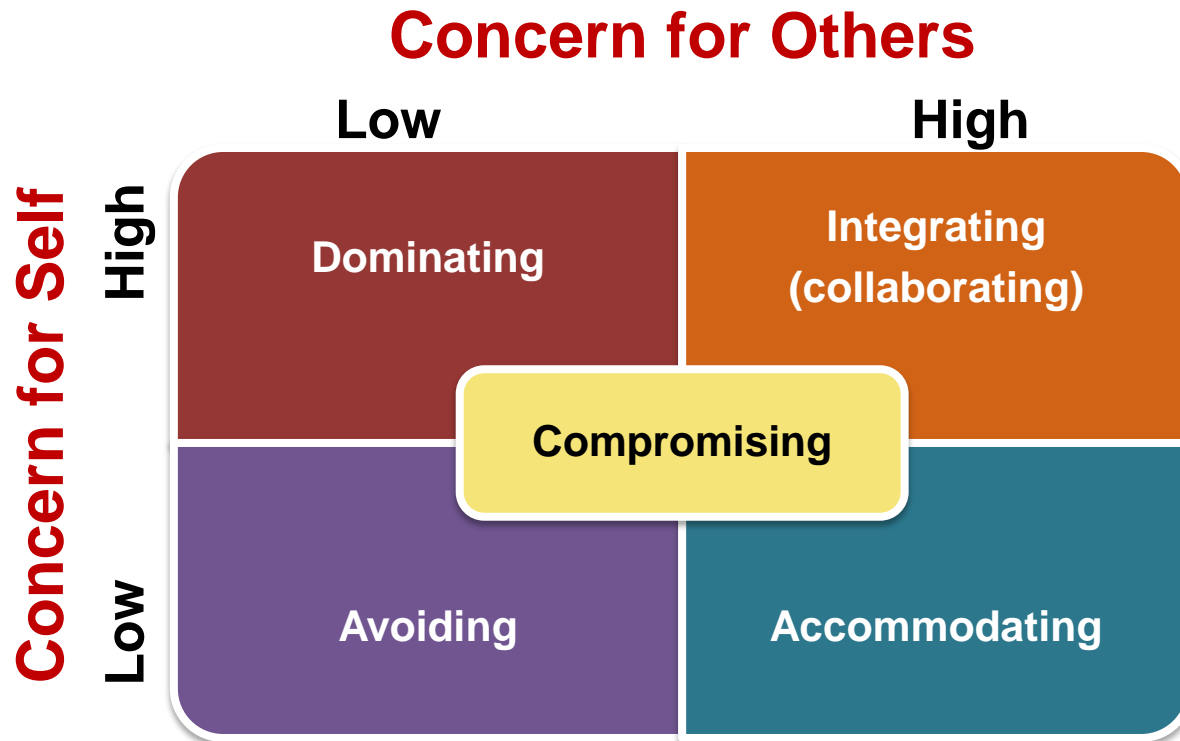
Procedure of Conflict Management in GNG1503

- A. First**, try to resolve the conflict in your team by following the conflict resolution process thought in this course.
- B. Second**, if the conflict persists contact, contact your Project Manager (PM) for mediation.
- C. Third**, if the conflict still persists, contact the professor (you must provide evidence that you followed steps A and B in vain).



Five Conflict Management Styles

- Each can be **beneficial in different situations**



<https://www.itpmetrics.com/>

Course Attendance: Registration

- Use your smartphone or laptop to **register/notify** your attendance in this lecture
- Allow **geo location** in the attendance site
- Accept **cookies** from third parties applications
- Log in using only your **Uottawa** account at the link below
<https://attendance.azarm.ca/attendancerecord/gng1103f>
- Your attendance must be registered only **during the lecture** and at the **time specified by the professor**
- You can also use the **QR code** below, to register quickly



Each Person Has a Natural Style...



<https://youtu.be/QJiJ95mHftE>

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Matching Conflict Styles to Situations

- **Time pressure:** if there was never **time pressure**, integration (collaboration) might always be the best approach to use
- **Issue importance:** extent to which the conflict involves important **priorities, principles** or **values**
- **Relationship importance:** how important is it that you maintain a **close, mutually supportive relationship** with your team members
- **Relative power:** how much **power** you have compared to other team members



Group Activity: Team Conflict Scenarios

- Form groups of 4 or 5 students
- Each group gets one **workbook**
- Each student chooses one character to use throughout the activity (in a group of 4, one person can act as two different characters)
- Read over each **scenario** and read any additional information about your **character related to the specific scenario**
- Ensure you follow your personal instructions carefully!

Scenario 1 (10min)

“You are working in a group of five students (you and four others). You have been given a project description that has some “minimum guidelines,” but leaves much leeway for students to decide what they wish to produce. You begin brainstorming ideas with your group about what to create, but two of the group members keep asking why everyone doesn’t just do what’s on the “minimum guidelines” handout. The other three members of the group clearly want to be more creative and go beyond the minimum. The two students who only want to do what is on the handout refuse to do any “extra” work. What do you do?”



Possible Resolutions...

- **Compromise**
 - Agree that Alex and Norah will do a bit more than the minimum, while Edward, Sophie and Arthur will relax their standards a bit to not overload the group
- **Accommodate**
 - Agree that Alex and Norah will only do their fair share of the “minimal” work, while any work that goes above and beyond the minimal guideline will be taken by Edward, Sophie and Arthur
- **Integrate**
 - Agree that Alex and Norah will do ALL the minimal guidelines work, while Edward, Sophie and Arthur will do ALL the above and beyond work



Scenario 2 (10min)

“You have been given an assignment which will culminate in a presentation in three weeks. You are working with a group of four students (you and three others). About one week into the project, another student is added to your group, bringing the total to five. The plans your group made for the presentation involve four students and you don’t want to change. To add to the problem, the new student in your group has come up with a few ideas about how they think you could “improve” the project. You and your other group members like what you have done already and you don’t want to change for this student. You figure out a small portion of the project to give to the new student and tell them to just do that and nothing else. They refuse and leave the room. You know all students must demonstrate their participation in the project for the group to receive a good grade. What do you do?”

Based on: <http://tchavezgsedp.weebly.com/conflict-scenarios.html>



Possible Resolutions...

- **Dominate**
 - Ignore the new team member and don't change anything, if time pressure matters
- **Compromise**
 - Agree to include some of Norah's ideas, while changing some of the others for the sake of group buy-in
- **Accommodate**
 - Since your team is at an impasse, you agree to accommodate Norah's ideas, because she has a lot of experience in this area
- **Integrate**
 - Agree to find a way to integrate Norah's ideas with those that the team has already come up with in order to create a better overall solution to the project

Scenario 3 (10min)

“You are working in a group of five students (you and four others). You have been working on a project together for half a semester. A few of the members of the team have been leaving deliverables until the last minute and the quality of your team submissions have suffered because of it. You have received fairly poor marks. To top it off, the last submission was handed in late, incurring an immediate penalty. Tension has been running high in the team and during today’s lab, two members have even begun to yell at each other. Half of the assignments remain, one of which is due next week. What do you do?”

Possible Resolutions...

- Avoid
 - Because emotions are running high, it is better to avoid the conflict all together for the time being, to allow the parties to cool off
- **Dominate**
 - Agree to let Edward take on a much stronger leadership role (since he cares so much about the performance of the team). This would put a much larger burden on Edward's shoulders regarding organization and planning. Here, time is limited
- **Compromise**
 - Agree to find a way to take into account everyone's situation while formulating a plan to improve the team's performance. This would require everyone to change their style a bit

Scenario 4 (10min)

“You are working in a group of five students (you and four others). You have been given a specific project to work on, but the guidelines are minimal and you haven’t received much guidance from the professor. You have gotten together once as a team to decide the direction of your project, as well as determine a general work plan. Although you see each other regularly in class, half of the semester has gone by and during an in class feedback session, you realize that no one has been working towards the same goal. In fact, your personal portions of the project are incompatible with each other. One teammate has also stopped going to class and you are unsure what they have accomplished. Your team is running out of time to complete a coherent project. What do you do?”

Possible Resolutions...

- **Dominate**
 - Agree to let Edward or Sophie take on a leadership role (Alex doesn't go to class, Norah is overwhelmed and Arthur is a follower) to ensure better communication and team organization moving forward
 - Agree on the best project solution and move forward with that
- **Integrate**
 - Agree to find a way to develop everyone's best ideas into the best overall solution to the project
- **Compromise**
 - Agree to take a little from each idea, even though some people may need to give portions of their work up

Scenario 5 (10min)

- As a group, create **your own conflict scenario**
- Use past group work **experiences** to help you create a scenario
- Try to think of **real conflicts** that you have had to deal with



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Possible Resolutions...

- What is your conflict scenario?
- How did you resolve your conflict?



There Is No One Right Answer...

- But there are **better styles** to achieve positive conflict outcomes depending on the **specific situation** and **circumstances**
- As long as everyone is **happy enough** and no one is willing to **actively resist**, then the conflict can be considered resolved
- Following the **three-step process** and being aware of the **different conflict management** styles which can be used in different situations will help

