

**ADVISORY No. 133, s. 2023**

September 5, 2023

In compliance with DepEd Order (DO) No. 8, s. 2013  
This advisory is issued not for endorsement per DO 28, S. 2001,  
but only for the information of DepEd officials,  
Personnel/staff, as well as the concerned public.  
(visit [www.deped.gov.ph](http://www.deped.gov.ph))

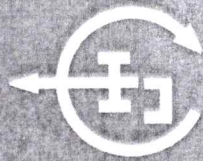
**19<sup>th</sup> NATIONAL CIVIL ENGINEERING SUMMIT (NCES)**

The **University of the Philippines Association of Civil Engineering Students (UP ACES)** a non-stock and nonprofit student organization will conduct a **Bridge Building Competition** which will be open to high school students. This competition allows students to gain a new perspective in Civil Engineering through construction strong, economical, and aesthetically-pleasing bridges in a time-pressured environment.

In this regard, this Office requests all Schools Division Office (SDO's) to disseminate the said invitation. Participation of the interested participants is on **official time**. All expenses shall be shouldered by the participants and subject to the no-disruption-of classes policy stipulated in DepEd Order No. 9, s. 2005 titled: "Instituting Measures to Increase Engaged Time-On-Task and Ensuring Compliance Therewith".

Attached is a request letter for a DepEd Advisory for this said activity.

*82*



# UP ACES

UNIVERSITY OF THE PHILIPPINES  
ASSOCIATION OF CIVIL ENGINEERING STUDENTS

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## EXECUTIVE COMMITTEE 2023

August 10, 2023

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*President*

**Jose Elonzo Alcantara**  
*Vice President for Internal Affairs*

**Rommel Landicho Jr.**  
*Vice President for External Affairs*

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*Marketing Chairperson*

**John Kenneth Gregorio**  
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**Jefferson Fernandez**  
*Promotions Chairperson*

**Victor Agapito Del Rosario**  
*Sports and Recreation Chairperson*

**Asst. Prof. Noriza Tibon Sadie**  
*Faculty Adviser*

**HON. ESTELA L. CARIÑO**  
Cordillera Administrative Region Director  
Department of Education

Dear Hon. Cariño:

Greetings!

The **University of the Philippines Association of Civil Engineering Students (UP ACES)** is a non-stock and non-profit student organization of the UP Institute of Civil Engineering. We are an organization that advocates and upholds academic excellence, community service, and professional and holistic growth of its members. Moreover, we continue to strive and leave an impact on the community through hosting talks, seminars, and competitions related to the civil engineering field.

This 2023, the **19th National Civil Engineering Summit (NCES)** with the theme **Foundations Reinforced: Diversifying the Horizons of Engineering** aims to highlight the role civil engineering plays within and outside its own boundaries. The summit which caters to thousands of Civil Engineering aspirants, high school students, faculty members, and professionals all over the country in a **face-to-face set-up** will consist of a series of events including the **Jumpstart, National Civil Engineering Quiz, Bridge Building Competition, Civil Engineering Career Fair, Civil Engineering Lab Tour, Civil Engineering Exhibit, and the National Civil Engineering Symposium.**

One of this summit's events, the **Bridge Building Competition**, will be open to high school students. This competition allows students to gain a new perspective in Civil Engineering through constructing strong, economical, and aesthetically-pleasing bridges in a time-pressured environment.

With this, we would like to **request an advisory from your region for our event, Bridge Building Competition.** We strongly believe that an advisory from your office will help us promote NCES more to high school students. The event will be a great opportunity for the students to realize the importance of the civil engineering field in nation-building by strengthening relationships with other sectors of society. The students' participation in this event will impart a huge impact on high school students, especially those who aspire to become civil engineers in the future.

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✉ [execom@upaces.org](mailto:execom@upaces.org)

🌐 [www.upaces.org](http://www.upaces.org)

📍 G/F Melchor Hall,  
University of the Philippines,  
1101 Diliman Quezon City



Respectfully yours,

**JOSE ANTONIO CIPAT**  
*Bridge Building Competition 2023 Co-head*  
UP Association of Civil Engineering Students

**JAMES ZANDER LORO**  
*Bridge Building Competition 2023 Co-head*  
UP Association of Civil Engineering Students

Noted by:

**ROMMEL LANDICHO JR.**  
*Vice President for External Affairs*  
UP Association of Civil Engineering Students

**CHARMAINE ANN LANDICHO**  
*President*  
UP Association of Civil Engineering Students

Endorsed by:

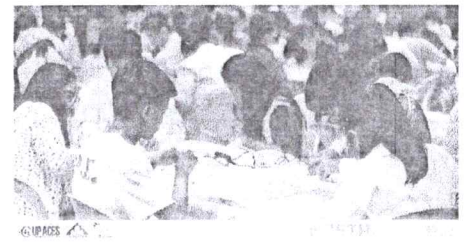
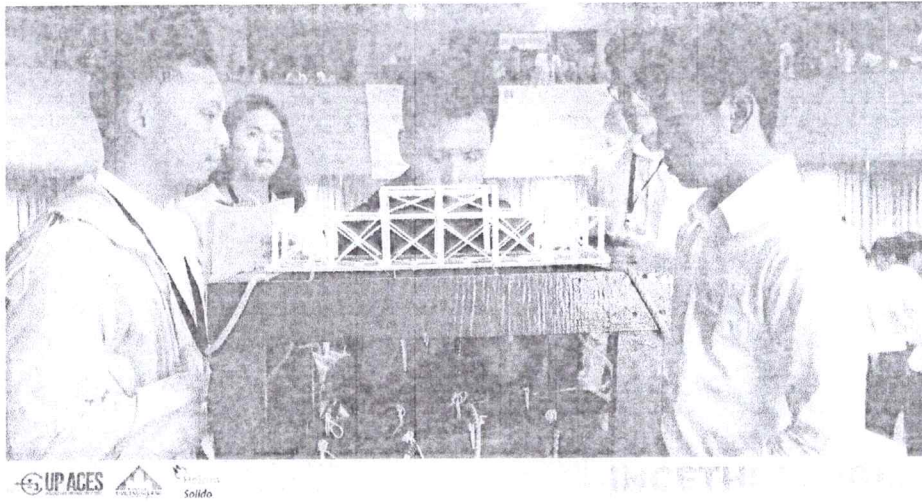
**ASST. PROF. NORIZA TIBON SADIE**  
*Adviser*  
UP Association of Civil Engineering Students

**DR. JOSE REGIN REGIDOR**  
*Director*  
UP Institute of Civil Engineering

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# EVENT PROFILE



## BRIDGE BUILDING COMPETITION

As we diversify the horizons of engineering, the National Civil Engineering Summit reinforces its foundations, and proudly brings you the Bridge Building Competition (BBC) 2023, open to high school students all over the Philippines.

The **Bridge Building Competition (BBC)** is a nationwide competition where teams of high school students from different regions compete in constructing the strongest, economical, and aesthetically-pleasing bridges using a limited amount of sticks in a time-pressured environment. This year's BBC is also adding a little twist which not only makes the competition more interesting, but also gives the participants a new perspective in civil engineering. Renowned experts are also invited to give insights about their respective fields. Finally, prizes await the young builders that show talent and skills in civil engineering.

## OBJECTIVES

This year's Bridge Building Competition aims to:

- » Simulate the minds of future civil engineers in the construction industry;
- » Test the capacity of the students to create the most economical and strongest bridge;
- » Apply real-life engineering concepts in creating a model of the bridge;
- » Inspire younger generation in pursuing different career paths in civil engineering;
- » Demonstrate how civil engineers work and think in real life projects.

# EVENT TIMELINE

## REGISTRATION PERIOD

JULY 8 - AUGUST 22, 2023

○ **EARLY BIRD REGISTRATION**  
JULY 8 - 14, 2023

○ **REGULAR REGISTRATION**  
JULY 15 - AUGUST 22, 2023

## BRIDGE BUILDING COMPETITION 2023

SEPTEMBER 28, 2023

○ **PROCUREMENT PHASE**  
8:30 AM - 9:00 AM

○ **CONSTRUCTION PHASE**  
9:00 AM - 12:00 PM

○ **CAREER TALKS**  
2:00 PM - 3:10 PM

○ **WEIGH-IN PHASE**  
2:10 PM - 3:10 PM

○ **TESTING PHASE**  
3:40 PM - 5:30 PM

## AWARDING CEREMONY

6:00 PM - 7:00 PM

# GENERAL GUIDELINES

## ELIGIBILITY

A participant is eligible to participate in the BBC 2023, given that:

1. They are a **junior or senior high school student (Grades 7-12)** in the Philippines, regardless of their strand, during the time of competition.
2. Their team has acquired an endorsement letter from their school.
3. Their team has registered, submitted the necessary requirements, and settled the payment before the competition proper. The team shall coordinate immediately with the organizers should there be an event of incomplete requirements such as:
  - a. Current/valid identification cards (IDs) are unavailable yet;
  - b. Proof of registration still not issued;
  - c. Endorsement letter has not been secured.

## REGISTRATION

1. The Bridge Building Competition will follow **team registrations**.
2. Only the first **60 eligible teams** for the Bridge Building Competition will be accommodated.
3. Each team shall consist of **three (3) members** with one of them being the representative or the contact person. The representative will register for their teams and will be considered the **team representative**.
4. A maximum of **two (2) teams per affiliation** (e.g. school, university, or college) are allowed to join the competition. Affiliated and non-affiliated teams may choose their own team name. Note that the affiliation of the affiliated team will still be mentioned.
5. Teams may be accompanied by only **one (1) faculty member**. Nonetheless, **teams from the same school** shall only be accompanied by **one (1) faculty member**.
6. The complete details for registration can be accessed through the Registration Guidelines to be posted in the NCES official page or through the following link: [tinyurl.com/NCESHS2023RegGuidelines](https://tinyurl.com/NCESHS2023RegGuidelines)
7. If you have any questions or concerns regarding the registration process, please contact **Arriane Charla A. Lastrella (0917 328 9386 (Globe))** or send an email to [nces.reg@upaces.org](mailto:nces.reg@upaces.org).

# MECHANICS

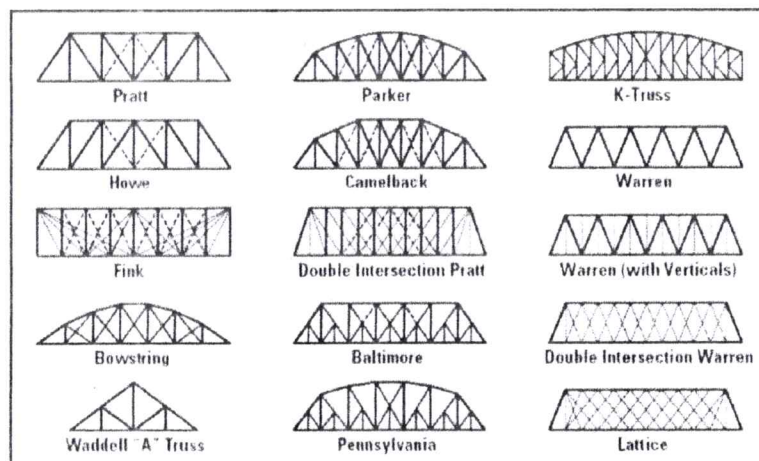
## COMPETITION FORMAT

### PROCUREMENT PHASE

- Each team will be given the materials for the bridge construction. The materials are as follows:
  - » 150 barbecue sticks
  - » 2 cutters
  - » 1 cutting board
  - » 1 glue gun
  - » 5 glue sticks
  - » 3 pencils
  - » 1 ruler
  - » 5 sheets of bond paper (legal size)
- The participants must estimate the materials they would need for the bridge construction. After estimation, the excess materials will be collected by the event organizers and will be returned to ACES Hardwares. Three (3) hardwares are stationed in the venue where the excess sticks will be counted:
  - » Hardware 1: For teams having control numbers 1-20
  - » Hardware 2: For teams having control numbers 21-40
  - » Hardware 3: For teams having control number 41 and above
- The materials will have corresponding cost values during the Procurement Phase, the Construction Phase, and at Post-Construction. The corresponding cost values will be announced at the event proper.
  - » After the Procurement Phase, teams may request for additional sticks during the Construction Phase. The representative must raise the corresponding flag to signal the organizers of their request. Sticks acquired during the Construction Phase will have higher cost values. See [Construction Phase No. 3](#).
  - » After the Construction Phase, excess sticks may be returned. The excess sticks will be deducted from the total cost, but their values will be lower compared to during the previous phases.

### CONSTRUCTION PHASE

- Teams can build any type of truss bridge with a horizontal driveway, examples of which are shown below.



Source: <https://www.msnbc.com/rachel-maddow-show/common-types-truss-bridges-msna199711>

- Bridges shall be made using only the **sticks** provided. Glue sticks must be used for **joint connections only**. (e.g. Provided pencils must not be used as part of the bridge.)
- Teams will be given three (3) flags which may be raised to signal organizers throughout the competition proper. The flags and their uses are as follows:



- » White Flag - to signify completion of construction during the Construction Phase
  - » Red Flag - to request for first aid
  - » Yellow Flag - to request for sticks during the Construction Phase
4. The bridge shall conform with the following dimensions:
    - » Span: 52-54 cm
    - » Height: 10-15 cm
    - » Width: 10-15 cm
  5. A 54 cm x 5.5 cm x 5.5 cm rectangular prism must be able to fit the bridge's driveway. This is to ensure that the metal bar used during the load testing can fit inside the bridge.
 

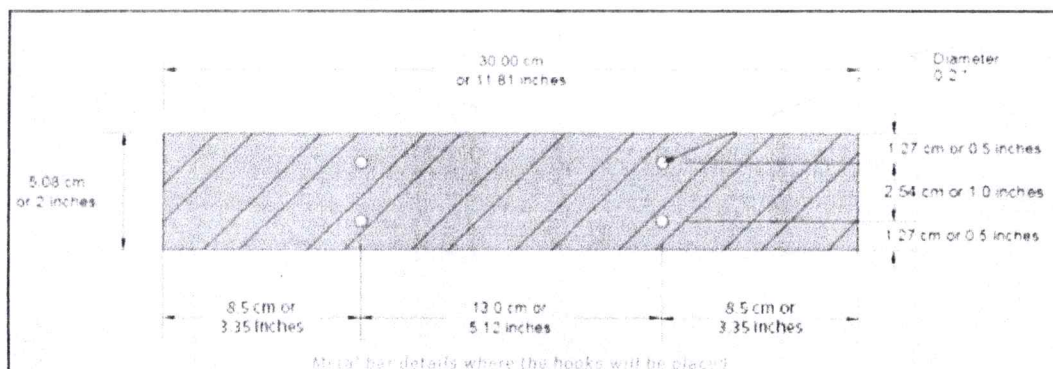
**Note:** Everything attached to the bridge is included in the measurements. (e.g. glue, excess uncut sticks)
  6. Bridges must allow four (4) hooks to be placed along the edges of the driveway.
  7. Participants are **not allowed** to bring reference models (e.g. pictures, sample bridges) as guides. Failure to comply will result in automatic disqualification from the competition.
  8. Teams will have a maximum of three (3) hours to construct their bridges.
  9. Teams may request for additional barbecue and/or glue sticks during the Construction Phase. The representative must raise the corresponding flag to signal the organizers of their request. See Construction Phase No. 3. Materials acquired during the Procurement Phase will have lower cost values than materials acquired during the Construction Phase since materials can be bought in bulk and many options are available since buying is not rushed.
  10. When a team has finished constructing their bridge, a team member shall raise their **white flag** to indicate their completion, and for the organizers to tally their time of finish. The team representatives shall place their bridges in the designated holding area. While displayed in the holding area, the bridges will be judged according to their design and craftsmanship. See [Judging Phase](#) for more details. The team members may wait on the second floor of the auditorium or visit the exhibit on the first floor.

## WEIGH-IN PHASE

1. The bridges will be weighed-in during the High School Career Talks:
  - a. Bridges of teams with control numbers 1-30 will be weighed-in during the 1st Career Talk.
  - b. Bridges of teams with control number 31 and above will be weighed-in during the 2nd Career Talk.
2. The bridge dimensions shall be verified by two to three (2 to 3) UP ACES members using a ruler, and shall be weighed using an electronic balance. The bridge must fit inside a 54 cm by 15 cm area. The team representative must be the one to place their bridge on the ruler and on the electronic balance.
3. Bridges that did not fit inside the area will be disqualified for the Testing Phase but are still eligible to receive special awards.

## TESTING PHASE

1. The bridges will be tested after the Career Talks. Testing of the bridges will be done by three to four (3 to 4) UP ACES members and the team representative only.
2. A flat metal bar will be placed along the bridge's driveway where four (4) hooks will be placed. The metal bar shall not touch the testing rig.



3. Progressive loading will be implemented. First, the 4000-gram container will serve as the first load. Then, 2000-gram loads will be used for the next 12 loads, and 1000-gram loads will be used for the next 12 loads for a total of 40000 grams or 40 kilograms.
4. The bridge must be able to carry the load for 5 seconds for the load to be added to the bridge's strength.
5. Additional loads must be placed after each 5-second holding time. The participants are allowed to place loads within the next 3 seconds only. Failure to do so will incur a 0.5-point deduction from the final score for each instance of violation. The timer will be provided on the screen to aid the team representative.
6. Placing of loads will stop once the bridge collapses or the maximum load of 40 kg is reached. The recorded strength of the bridge will be 40 kg even if the bridge can still carry more load.
7. The bridges must be able to handle 16-40 kg load. Bridges that collapsed before reaching 16 kg load will have a recorded strength of 0 kg.  
 where: **load** = container + metal bar + sandbags = strength
8. Any concern regarding testing, violations, and/or mechanics must be raised before the next bridge is tested. Only the members of the team may approach the BBC 2023 Heads.
9. UP ACES reserves the right to change, amend, and modify the rules and regulations, in part or whole, at their discretion if the need arises. Rest assured that all participants will be notified immediately of this matter.
10. UP ACES shall not be responsible for any loss of unsurrendered items for the whole duration of the event.
11. UP ACES shall not be responsible for any injuries incurred outside of its provided services.

### JUDGING PHASE

CRITERIA FOR JUDGING	
Strength-to-Weight Ratio	40%
Cost	40%
Design	10%
Craftsmanship	10%
Time Efficiency	Bonus Points

1. The panel of judges will provide the scoring for the bridge design and craftsmanship. The judges' scores are final. The bridges will be judged on their neatness, creativity, and accuracy.
2. Strength-to-weight (SW) ratio is equal to the maximum load endured by the bridge divided by the weight of the bridge.

$$\text{SW Ratio Score} = \text{SW ratio of team} / \text{highest SW ratio from all teams}$$

3. The cost score is equal to the least costly bridge from all teams divided by the bridge cost of the team.  

$$\text{Cost} = \text{lowest cost from all teams} / \text{cost of team}$$
4. The score for time efficiency will only be applied as additional points to the total score of the team. Corresponding bonus points are given based on the time interval the team has finished their bridge.

Time Interval (h:mm)	Bonus Points
0:00 - 1:59	3.0 points
2:00 - 2:09	2.5 points
2:10 - 2:19	2.0 points
2:20 - 2:29	1.5 points
2:30 - 2:39	1.0 point
2:40 - 2:49	0.5 point
2:50 - 3:00	no bonus points

5. During lunch time, public voting will be held where each school (regardless of number of teams) will indicate the control numbers of the bridges they will vote for. Two (2) points will be awarded to their first choice and one (1) point will be awarded to their second choice. The team with the highest number of votes will be declared the winner for the People's Choice Award. Public voting schedule are as follows:

Time	Batch 1 (CN 1-30)	Batch 2 (CN 31-60)
12:00 NN - 1:00 PM	Lunch	Voting
1:00 PM - 2:00 PM	Voting	Lunch

Note: The vote of the school will be considered void if they voted for their own bridge/s.

## AWARDS AND PRIZES

### MAJOR AWARDS

The winning teams shall receive the following prizes in addition to their certificate of participation in the competition:

Rank	Cash Prize	Other Inclusions
1st Place	Php 15,000.00 only	3 Medals 3 Certificates 1 Trophy
2nd Place	Php 7,500.00 only	
3rd Place	Php 4,500.00 only	

### SPECIAL AWARDS

Special awards will be given to the teams whose bridges got the highest total score on the corresponding criteria.

Award	Inclusions
Best in Bridge Design and Craftmanship	Certificate of Recognition, Php 1,500.00 only
People's Choice Award	Certificate of Recognition, Php 1,500.00 only

## GROUND FOR DISQUALIFICATION

- » Use of materials aside from those provided.
- » Inclusion of materials aside from provided barbeque and glue sticks.
- » Use of references or guides during the competition proper.
- » Non-conformity to the aforementioned bridge dimensions
- » Touching or tampering with other teams' bridges.
- » Altering of bridges after the Construction Phase or after the team has confirmed that they are done constructing their bridge.
- » Coaching from faculty member representatives during the Construction Phase.
- » The team will be deducted 0.5 points from their final score per time that the team is late in putting loads during Testing Phase

## PROGRAM FLOW

ACTIVITY	START	END	DURATION	VENUE
Registration	6:00	8:00	120	ICE
National Anthem	8:00	8:03	3	Auditorium
Opening Remarks	8:03	8:08	15	Auditorium
Lecture on Bridge Building	8:08	8:23	15	Auditorium
Awarding of Speaker	8:23	8:25	2	Auditorium
Mechanics	8:25	8:30	5	Auditorium
<b>Procurement Phase</b>	8:30	9:00	30	Auditorium
<b>Construction Phase</b>	9:00	12:00	180	Auditorium
Lunch   Judging Phase	12:00	14:00	120	UP ICE   Holding Area
Opening Remarks (Career Talk)	14:00	14:10	10	Auditorium
<b>Career Talk 1   Weigh-in Phase</b>	14:10	14:40	30	Auditorium
<b>Career Talk 2   Weigh-in Phase</b>	14:40	15:10	30	Auditorium
Break	15:10	15:30	20	Auditorium
Presentation of Judges	15:30	15:40	10	Auditorium
<b>Testing Phase</b>	15:40	17:30	170	Auditorium
Company Talk	17:30	18:00	30	Auditorium
Awarding and Closing Ceremony	18:00	19:00	60	Auditorium

# OTHERS

## CONTACT DETAILS

CONCERN	CONTACT INFORMATION
BBC 2023 Co-heads	<b>Jose Antonio Cipat</b> - 0969 523 2107 (Smart) <b>James Zander Loro</b> - 0928 629 3494 (Smart)
NCES 2023 Facebook Page	<a href="https://fb.com/ncesummit">fb.com/ncesummit</a>
BBC 2023 Registration Guidelines	<a href="https://tinyurl.com/NCESHS2023RegGuidelines">tinyurl.com/NCESHS2023RegGuidelines</a>
BBC 2023 Registration Form	<a href="https://tinyurl.com/NCESHS2023Reg">tinyurl.com/NCESHS2023Reg</a>
For BBC-related questions Pre-event questions	<a href="mailto:externals.nces@upaces.org">externals.nces@upaces.org</a>
Registration concerns	<a href="mailto:nces.reg@upaces.org">nces.reg@upaces.org</a>

## DATA PRIVACY

UP ACES shall ask for your information to be an eligible participant in this competition. In doing so, UP ACES will comply with the implementing rules and regulations of Republic Act 10173 - Data Privacy Act of 2012. Rest assured that UP ACES and the partner companies will only use your information to send updates, announcements, and advisories about the National Civil Engineering Summit, and we will not share nor sell your personal information to any other third party.

## INTELLECTUAL DISHONESTY

Based on 2012 Code of Student Conduct of University of the Philippines Diliman,

*Intellectual dishonesty is defined as any fraudulent act performed by a student to achieve academic advantage or gain for oneself or others. These acts include, but not limited to:*

1. *Plagiarism, defined as the "appropriation of another person's ideas, processes, results or words without giving appropriate credit";*
2. *Fabrication, defined as "making up data or results"; falsification, or "manipulating research materials, equipment, or processes or changing or omitting data or results such that the research is not accurately represented in the research record"; distortion and/or destruction of data;*
3. *Copying or providing the means or accessing means to copy exam answers, homework, projects, laboratory experiments, term papers, etc.; possession and/or use of cheat devices during an examination; allowing another person to take an examination in one's name, and/or impersonating another student or allowing someone to impersonate oneself in an academic activity; and manipulating a corrected exam paper;*
4. *Submission of the same work in two or more courses without the instructors' consent; and*
5. *Other acts analogous to above mentioned clauses.*