Course title :

Course Basic Information	
Academic Unit:	Faculty of Civil Engineering
Course title:	Calculating geometry
Level:	Bachelor
Course Status:	Mandatory
Year of Study:	Year 1, Semester 2
Number of Classes per Week:	2+2
ECTS Credits:	6
Time /Location:	According to the Timetable
Teacher:	Prof. Dr. Abdullah Zejnullahu
Contact Details:	abdullah.zejnullahu@uni-pr.edu
Course Description:	The subject contains the following main parts: transformations in flat, homogeneous coordinates and plane transformations, homogeneous coordinates and transformations of space.
Course Goals:	Notice to the knowledge of the analytical form geometry we just different transformations and different coordinates of the particular quaternion and their application in geodesy.
Expected Learning Outcomes:	After completing this course / subject teaching / student will be able to use and understand the concepts of geometry to compute in order to apply the knowledge in geodesy namely the transformation of different surfaces and in the drafting of any software for the field of geodesy.

Student Workload (should be in compliance with student's Learning Outcomes)			
Activity	Hours	Day/ Week	Total
Lectures	2	15	30
Theory/ Lab Work/Exercises	2	15	30
Practical Work			
Study for intermediate test			
Consultations with the teaher	4	2	8
Field Work			
Test, seminar paper	1	10	10
Homework	1	15	15
Self-study (library or home)	1	25	25
Preparation for final exam	1	24	24
Assessment time (test, quiz, final exam)			
Projects, presentations, etc.	1	8	8
Total			150

Teaching Methods:	-Lecture -Discussion during lectures

	-Exercises
	-Team work
Assessment Methods:	In evaluation, the percentage of the attendance of each partial evaluation in the final evaluation must be determined. One of the ways of evaluation would be:
	First Evaluation: 20%
	Second Evaluation: 20%
	Homework or other engagement: 10%
	Attendance 10%
	Final Exam 40%
	Total 100%

Primary Literature:	Duncan Marsh , Applied Geometry for Computer Graphics and CAD,2204,Springer
Additional Literature:	Gerald R. Rising , John A. Graham , John G. Balzano, Janet M.Burt, Alice M. King ;, Unified Mathematics, Houghton Mifflin , 1985.

Designed teaching plan

Week	Title of the Lecture
Week 1:	Introduction, The translation
Week 2:	Scaling on the origin, reflection
Week 3:	Divisions, Concatenation of transformations
Week 4:	Applications
Week 5:	Homogeneous coordinates, point at infinity
Week 6:	Transformations in homogeneous coordinates, the translation in homogeneous coordinates
Week 7:	Scaling and rotation on the origin in homogeneous coordinates. The inverse transformation in homogeneous coordinates
Week 8:	Curl associated with a qualitative point random
Week 9:	Reflection associated with a line of arbitrary. The first evaluation mediator
Week 10:	Homogeneous coordinates in space Transformation of Space
Week 11:	The translation Scaling and reflection
Week 12:	Curl associated with coordination axles Curl connected with a straight line random
Week 13:	Reflection over a plain odd
Week 14:	Geometric methods for straight line and plane in space
Week 15:	Projections of plane Projections of three-dimensional space The second evaluation mediator

Academic Policies and Code of Conduct
- Regular attendance of lectures and exercises - Being quiet during the sessions - Shutting down mobile phones - Being on time

Note | If a student has more than 3 class assignements evaluated below 50% he/she loses the right on taking the final exam. Evaluation is done from 0-100 %.