ACADEMIC YEAR: 2019/2020

COURSE: HIGHER GEOMETRY – Mod B

TYPE OF EDUCATIONAL ACTIVITY: Basic

TEACHER: Prof. Alessandro SICILIANO

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mobile phone:

Language: italian/english

ECTS: 6

Campus: Potenza

Deptartment: DIMIE

OBIETTIVI FORMATIVI E RISULTATI DI APPRENDIMENTO

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The aim of the course is to overview the geometry of the general linear group and the classical groups associated with non- degenerate bilinear forms of a vector space. It will be also showed the simplicity of some of these groups. At the end of the course, the student will know the basics of the geometry of classical groups and their action on the associated geometry.

PRE-REQUIREMENTS

The students are asked to know the contents of the undergraduate courses in Geometry, Linear Algebra and Group Theory and Higher Geometry- Mod. A

SYLLABUS

Symmetric bilinear forms and quadratic forms. The orthogonal geometry and the orthogonal group in odd characteristic. The simplicity of the projective group PΩ (V). Hermitian forms. The unitary geometry and unitary group.

TEACHING METHODS

Room Lessons

EVALUATION METHODS

Oral exam

TEXTBOOKS

Larry C. Groove, Classical Groups and Geometric Algebra, Graduate Studies in Mathematics, Volume 39, American Mathematical Society.

E. Artin, Geometric Algebra, Wiley Classic Library

Taylor, The geometry of the classical groups. Sigma Series in Pure Mathematics, 9. Berlin, 1992

INTERACTION WITH STUDENTS

Individual appointments to assist students

Other times are avilable after contacting the teacher via phone or e-mail

DATE DI ESAME PREVISTE

EXAMINATION SESSIONS (FORECAST)

12 Giugno 2020; 2 Luglio 2020; 18 Settembre 2020; 9 Ottobre 2020; 4 Febbraio 2021

SEMINARS BY EXTERNAL EXPERTS NO