

General data

Course ID:	B04109
Course name:	Road-building
Department:	Faculty of Civil and Environmental Engineering
Course type:	(in Polish) Przedmioty- kier. BUD stac. I-ego stopnia 2 rok 2 sem.
ECTS	4.00 (depends on study program)
Language:	(unknown)

Classes in period Summer Semester 2012/13

Time span:	4
Coordinator:	dr inż. Andrzej Plewa
Group instructors:	dr inż. Ewa Oldakowska, mgr inż. Paweł Gierasimiuk, dr inż. Andrzej Plewa

Type, requirements, objectives and goals of course

Course type: Compulsory

Prerequisites: Foundations of engineering communication

Assessment: Final test

Aims and objectives: Acquainting Students with the problems of road construction in the performance of road pavements.

Teaching methods: Lectures, activities, laboratory activities

Course content

Lectures:

Historical overview of road construction. The materials used in road construction. The production technology of road materials. Technology and general characteristics of the earthworks. Compaction methods of road sub-grade and sub-base . Technology of sub-base. Design of mineral-asphalt mixes. Technology of road surfaces. Traffic engineering objects. Repairs and rebuilding roads.

Activities:

Project of the road pavements. Cross (normal) section projecting road. Designing of the mineral-asphalt mix by border curves method. Designing asphalt quantity by analytic method.

Laboratory activities:

Performance fundamentality laboratory investigations asphalt binders, mineral aggregates and designing of the mineral-asphalt mix.

Learning outcomes:

- Student identifies problems associated with road construction
- Student identifies machinery and equipment in the construction of the road
- Students draw a flow diagram of the manufacturing process of road materials
- The student knows the basic design of asphalt mixes
- Student is able to perform basic laboratory testing of road materials

Bibliography

a) basic references:

1. Piłat J., Radziszewski P.: Nawierzchnie asfaltowe; WKiŁ, Warszawa 2010.
2. Kalabińska M., Piłat J., Radziszewski P.: "Technologia materiałów i nawierzchni drogowych", Warszawa 2003.
3. Rozporządzenie z dnia 3 marca 1999r. MTiGM, DU nr 43 RP z dnia 14 maja 1999r.

4. Datka St. Lenczewski St.: "Drogowe roboty ziemne", WKiŁ, Warszawa 1980.
5. Bracha I.: " Maszyny budowlane", Arkady, Warszawa, 1981.
6. Ministerstwo Infrastruktury, IBDiM: "WT-2 - Nawierzchnie asfaltowe na drogach publicznych",Warszawa 2008.
7. Gawel I., Kalabińska M., Piłat J.: "Asfalty drogowe", WKiŁ, Warszawa 2001.
8. Normy i wytyczne dotyczące badań materiałów drogowych.

b) supplementary references:

1. Ministerstwo Infrastruktury, IBDiM: WT-2 - Nawierzchnie asfaltowe na drogach publicznych. Warszawa 2008.
2. Lay M.G.: The handbook of road technology, 2009.