

## 60565 - Water resources and hydraulic facilities

### Información del Plan Docente

<b>Academic Year</b>	2016/17
<b>Academic center</b>	201 - Escuela Politécnica Superior
<b>Degree</b>	546 - Master in Agricultural Engineering
<b>ECTS</b>	6.0
<b>Course</b>	1
<b>Period</b>	First semester
<b>Subject Type</b>	Compulsory
<b>Module</b>	---

### **1.Basic info**

#### **1.1.Recommendations to take this course**

#### **1.2.Activities and key dates for the course**

### **2.Initiation**

#### **2.1.Learning outcomes that define the subject**

#### **2.2.Introduction**

### **3.Context and competences**

#### **3.1.Goals**

#### **3.2.Context and meaning of the subject in the degree**

#### **3.3.Competences**

#### **3.4.Importance of learning outcomes**

### **4.Evaluation**

### **5.Activities and resources**

#### **5.1.General methodological presentation**

This subject is focused in applied technology. The skills acquired apply to professional practice and require internalization by the students.

The theoretical contents are taught with the support of ppt, animations, interactive examples, and enlisting the active participation of students incorporating their own experience.

Professional contents of the subject are focused on the work with practical examples using computer tools provided in the

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course.

### 5.2.Learning activities

Theoretical lectures (30 hours).

Exercises and study cases (20 hours).

Computer laboratory practice (10 hours).

Home work (24 hours)

Study (60 hours).

Evaluation (6hours).

### 5.3.Program

#### Theory and Problems

- \* C1 Fundamentals of Hydrodynamic Transport
- \* C2 Free surface flows.
- \* C3 Channel regulation.
- \* C4. Free surface Irrigation
- \* C5 Transients in networks.
- \* C6 Hydrological Cycle.
- \* C7 Surface hydrology. Precipitation.
- \* C8 Flood hydrographs.
- \* C9 Underground hydrology. Wells characterization

#### Practicum



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Week	11	12	13	14	15	16	17			TOTAL
T1 Teoría	C6	C7	C8	C9	C9					30
T2 Exercises		C7	C8	C9	C9					20
T3 Comp Lab	P5									10
T6 Home work	2h	2h	2h	2h	2h					24
T7 Study	4h	4h	4h	4h	4h					60
T8 Evaluation						6 h				6

### 5.5. Bibliography and recommended resources

#### Basic Bibliography

- Chow, Ven Te. Hidrología aplicada / Ven Te Chow, David R. Maidment, Larry W. Mays ; traducción Juan G. Saldarriaga ; revisión técnica Germán R. Santos G. . Santafé de Bogotá ; Madrid : McGraw-Hill, imp. 1999
- Transitorios y oscilaciones en sistemas hidráulicos a presión / editores José M. Abreu, Rafael Guarga, Joaquín Izquierdo . Valencia : Universidad Politécnica, Unidad Docente Mecánica de Fluidos, D.L.1995
- Gurovich R., Luis A.. Riego superficial tecnificado / Luis A. Gurovich R. . 2ª ed. México : Alfaomega, cop. 1999
- French, Richard H.. Hidráulica de canales abiertos / Richard H. French ; traducción M.I. Ariel Fredman ; revisión técnica Jorge Esteban Athala Molano . México McGraw-Hill cop. 1988
- Muñoz Carpena, Rafael. Hidrología agroforestal / Rafael Muñoz Carpena, Axel Ritter Rodríguez . Madrid : Mundi-Prensa ; Las Palmas de Gran Canaria : Gobierno de Canarias, Dirección General de Universidades e Investigación, 2005

#### Further Bibliography

- Chow, Ven Te. Hidrología aplicada / Ven Te Chow, David R. Maidment, Larry W. Mays ; traducción Juan G. Saldarriaga ; revisión técnica Germán R. Santos G. . Santafé de Bogotá ; Madrid : McGraw-Hill, imp. 1999
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