

Course Presentation

Planning and Scheduling

Computer Sciences Degree

Computer Engineering Department

Dra. M^a Dolores Rodríguez Moreno

Teachers and Tutoring hours

Dra. María Dolores R-Moreno	Dr. Pablo Parra Espada
<p>Course leader</p> <p>Email: malola.rmored@uah.es</p> <p>Office: E-313</p> <p>Phone: 91-885-66-07</p> <p>Tutoring hours: Tu: 11-14 W: 17-18</p> <p>Research: AI & ML and robotics</p>	<p>Email: pablo.parra@uah.es</p> <p>Office: E-235</p> <p>Phone: 91-885-69-52</p> <p>Tutoring hours: Tu: 10-12 Th: 15:00 a 17:00.</p> <p>Research: Embedded systems</p>

CV

- European PhD in Computer Sciences
- Research interest
 - AI & ML
 - Robotics
- Research Visits
 - BT, UK
 - CNR, Italy
 - NASA Ames, USA
 - JPL-NASA, USA
- Full Professor (2018)
- <https://atci.aut.uah.es/~mdolores/>

General features

Course

Semester

Credits

Web

Course Schedule

Labs Schedules

3rd Year

Second

6 ECTS

Aula Virtual

Wed: 10-12 (on-line)

Wed: 8-10(SA1)

Wed: 12-14 (SA1) and 12-14(E-A8)

Wed: 15-17 (SA1)

Objectives

General Objective

Know AI Planning: concept & techniques

Specific Objectives

- Explain how classic search techniques differ in planning systems
- Explain the differences between planning as search, operator-based planning and propositional planning
- Compare and contrast static planning with those that need dynamic execution
- Know the impact of AI planning in Robotics

Contents

Part	Topics
1. Introduction	<ul style="list-style-type: none">• Search• Planning
2. AI Planning	<ul style="list-style-type: none">• Languages & Techniques
3. AI Scheduling	<ul style="list-style-type: none">• Techniques
4. Application Domains	<ul style="list-style-type: none">• Robotic• Space

Course Scheduling

- Time distribution of the course:
 - Course: on-line & synchronous
 - Labs: on-line and in classroom: SA1/EA8 (details of the excel sheet)
 - 12h/per student of physical attendance

Labs Assignments

2020-21: PLANIFICACIÓN AUTOMÁTICA

Presentación y Contenidos

Soluciones Técnicas Planificación

Videconferencia/Chat

Grupos de Trabajo

InscripciónLaboratorio

Contenidos

Evaluaciones

Mis calificaciones

Comunicación

Anuncios

Calendario

Mensajería

Foro de debate

Grupo A3: miércoles 15-17

Crear página Wiki

Instrucciones de wikis

Grupo A3: miércoles 17-19

Grupo A3: miércoles 17-19

Creado por María Dolores Rodríguez Moreno el martes 2 de febrero de 2021 23H09' CET

última modificación por María Dolores Rodríguez Moreno el martes 2 de febrero de 2021 23H19' CET

Editar contenido de wiki

Escriba su nombre con el siguiente formato indicando entre paréntesis el orden de los otros 3 laboratorios. Es decir, si os habíais apuntado al grupo A4, deberíais poner en su wiki:
APELLIDO1 APELLIDO 2, NOMBRE (A2,A1,A3)

Los alumnos que sólo puedan asistir al que se han apuntado por motivos de trabajo, medico, etc que además pongan después de las preferencias de laboratorio, la justificación. Se requerirá una vez asignados los laboratorios que presenten la justificación. Es decir, deberán poner:
APELLIDO1 APELLIDO 2, NOMBRE (A2,A1,A3) MOTIVOS LABORALES

Methodology

- Theory classes
- Problems solved
- Flipped Learning
 - Please, install SOCRATIVE

Continuous Assessment

Instruments Rating	% Mark
1. Final Exam	40%
2. Testing Lab	30%
3. Partial Exam/Assignments	30%

Testing Lab (30%)

- Each lab assignment has a deadline, upload in a .zip the exercises before that date
- The assignment is compulsory
- You can do it in pairs but better to do it alone
- The **lab exam** defines the **lab mark**
- Missing a lab assignment means $\frac{1}{3}$ (10%) less of the total lab mark (30%)

PEP/TA (30%)

- Visualizing ALL videos → 0,25points
- 0,75 points → The rest, by quizzes in the class
- Partial exam (20points)

Single Assessment

Instruments Rating	% Mark
1. Final Exam	100%

Regulation

- Notifications by the e-learning platform
- Contact by e-mail
- Respect and courtesy
- Plagiarism will not be tolerated

Bibliography

- Malik Ghallab, Dana Nau and Paolo Traverso (2016). Automated Planning and Acting. Cambridge University Press, online ISBN: 9781139583923.
- Stuart Russell y Peter Norvig (2009). Artificial Intelligence: A Modern Approach. (3rd Edition). Ed. Pearsons.
- McDermott, Drew; Ghallab, Malik; Howe, Adele; Knoblock, Craig; Ram, Ashwin; Veloso, Manuela; Weld, Daniel; Wilkins, David (1998). PDDL-The Planning Domain Definition Language. Technical Report CVC TR98003/DCS TR1165. New Haven, CT: Yale Center for Computational Vision and Control.
- Fikes and Nilsson (1971). STRIPS: A New Approach to the Application of Theorem Proving to Problem Solving, Artificial intelligence, 2 (3-4): 189-208.
- A. Blum and M. Furst (1997). Fast Planning Through Planning Graph Analysis. Artificial Intelligence, 90:281-300
- Jörg Hoffmann (2001). FF: The Fast-Forward Planning System. AI Magazine, 22 (3):57-62.

Questions???

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Socrative Quiz: GIIPLANNING (Room)

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