

NEW TRENDS IN CONTACT LENSES

24044 - NEW TRENDS IN CONTACT LENSES (2024-25)

General

Code: 24044

Lecturer responsible:

SANSANO GIL, JOSE MIGUEL

Credits ECTS:

6,00

Theoretical credits:

0,24

Practical credits:

2,16

Distance-base hours:

3,60

Departments involved

- **Dept:** ORGANIC CHEMISTRY

Area: ORGANIC CHEMISTRY

Theoretical credits: 0,24

Practical credits: 2,16

This Dept. is responsible for the course.

This Dept. is responsible for the final mark record.

Study programmes where this course is taught

- [DEGREE IN OPTICS AND OPTOMETRY](#)

Course type: OPTIONAL (Year: 4)

Competencies and objectives

Course context for academic year 2024-25

In this course, essentially practical, it is intended that students know some of the latest advances in the field of contact lenses through the study of original research articles. We also intend that students acquire the ability to study and plan their activities towards the learning of the English language, both individually and in groups, by searching, selecting, interpreting and synthesising information from various literature sources.

The relevance of the subject within the curriculum is justified by its contribution to the development of the specific skills CE16, CE21, CE26, CE27, CE66, CE67, CE68, CE69, CE70, CE71, CE72, and CE73, which are related to the knowledge of the structure and properties of materials used for the manufacture, application and maintenance of contact lenses.

The following objectives are pursued:

- 1) The application of the previously acquired knowledge by the student, especially in the subjects of Optical Materials and Contactology, to the analysis of recent research results in contact lenses.
- 2) To foster the development of a wide range of transversal skills, such as the analysis and synthesis capability, organization and planning, oral and written communication in a foreign language (English), computer skills, information management, team work, working in an international context, or critical thinking, among others.
- 3) To acquire experimental skills by developing in the laboratory some of the recently published experimental procedures.

The course New Trends in Contact Lenses is based on the subjects Chemistry (first year) and Optical Materials (second year), and it is closely related to the subjects Contactology I and II (third year), Clinics Optometry and Contactology (fourth year).

The use of whatever mobile terminal is not allowed during presential activities.

Course content (verified by ANECA in official undergraduate and Master's degrees) for academic year {0}

Specific competences (CE):>>Module 1: basic competences

- **CES16** : Conèixer l'estructura de la matèria, els processos químics de dissolució i l'estructura, propietats i reactivitat dels compostos orgànics.
- **CES21** : Conèixer i saber usar material i tècniques bàsiques de laboratori.

Specific competences (CE):>>Module 2: optics competences

- **CES26** : Conèixer les propietats físiques i químiques dels materials utilitzats en l'òptica i l'optometria.
- **CES27** : Conèixer els processos de selecció, fabricació i disseny de les lents.

Specific competences (CE):>>Module 4: optometry competences

- **CES63** : Conèixer les tècniques actuals de cirurgia ocular i tenir capacitat per a fer les proves oculars incloses en l'examen preoperatori i postoperatori.
- **CES64** : Conèixer, aplicar i interpretar les proves instrumentals relacionades amb els problemes de salut visual.

Exclusive skill taught in this course

No data

Learning outcomes (Training objectives)

No data

Specific objectives stated by the academic staff for academic year 2024-25

A. Cognitive objectives

1. To classify polymeric materials (EC 16).
2. To distinguish the different types of polymerization reactions (EC 16).
3. To relate the structure of the polymers with their physico-chemical and optical properties (EC 16, EC 26).
4. To distinguish the different types of polymers of application in optics (EC 16, EC 26).
5. To classify contact lenses according to their properties and applications (EC 66, EC 67).
6. To distinguish between the different manufacturing processes of contact lenses (CE 27).
7. To interpret the physico-chemical and optical properties of contact lenses according to their composition (EC 26, EC 67).
8. To distinguish between polymers for the manufacture of hard and soft contact lenses (CE 16, CE 26, CE 66, CE 67).
9. To select the suitable material for a contact lens according to the properties required for a certain application (EC 16, EC 26, EC 66, EC 67).
10. To interpret, identify and classify the factors that contribute to the deterioration of contact lenses (EC 69).
11. To select the proper cleaning, disinfection, preservation and maintenance system for a particular contact lens (CE 69).
12. To interpret clinical cases associated with contact lens fitting and ocular prostheses (CE68, CE70, CE71, CE72, CE73).

B. Instrumental objectives

1. To apply the theoretical knowledge on optical materials to practical cases (CG 2, CMECES 2).
2. To solve qualitative and quantitative problems as previously developed models (CG 3, CMECES 2).
3. To recognise and analyse new problems and propose strategies to solve them (CG 1, CG 3, CMECES 2)
4. To manage information and data on optical materials and know how to evaluate, interpret and synthesize them (CG 1, CMECES 3, CGUA2).
5. To express in oral and written English the concepts and knowledge of the subject (CG 1, CMECES 4, CGUA1, CGUA3).
6. Management of ICT tools (CGUA2).
7. To discuss the most critical aspects of the subject (CG 10, CMECES 3).
8. Safely handling of chemicals and laboratory equipment (CE 21).
9. To experiment with materials to be used in a future career (EC 21).

C. Attitudinal objectives

1. To show willingness to learn new things and study further (CG 1, CG 2, CG 12, CG 18).
2. To acquire an ethical commitment to the work and himself (CG 11).
3. To reflect on and evaluate their own work (CG 1 CG 10).
4. To cooperate in team work acquiring and developing social skills and emotional intelligence (CG 5 CG 8).
5. To integrate, tolerate and respect other people or members of a group (CG 8 CG 11).
6. To develop the skills necessary for responsible participation: attendance, coordination ability, contributions to a group (CG 2, CG 5).
7. To establish open communication, trust and commitment to the members of a group (CG 5 CG 8 CG 11).

Content and bibliography

Content for academic year 2024-25

Theory

- T1. Literature search through the bibliographic and documentary information service of the University of Alicante.
- T2. Types and structure of research articles.
- T3. Interpretation and critical analysis of a research article.
- T4. Writing a research paper or report.
- T5. Preparing an academic presentation.
- T6. Delivering an oral presentation.

Practice and seminars

Preparation and presentation of research work based on original research articles.

Laboratory

PL1. Synthesis of contact lens materials for drug dosage-Drug dosage in commercial contact lenses.

PL2. Practice to be defined by the teacher. The student must search, copy and perform it.

Related links

No data

Cuestiones de materiales ópticos

Author(s): Bonmatí Magro, A.

Issue: Alicante : Universidad de Alicante, 1995;

ISBN: 84-7908-195-3

Category: Básico

Contact lenses A-Z

Author(s): EFRON, Nathan

Issue: Oxford : Butterworth Heinemann, 2002;

ISBN: 0-7506-5302-7 (rúst.)

Category: Básico

Contact lens practice

Author(s): Efron, Nathan

Issue: Amsterdam : Elsevier, 2024;

ISBN: 978-0-7020-8427-0

Category: Básico

Contact lens practice

Author(s): Efron, Nathan

Issue: Amsterdam : Elsevier, 2024;

ISBN: 978-0-7020-8427-0

Category: Básico

Contact lens practice

Author(s): Efron, Nathan

Issue: Amsterdam : Elsevier, 2024;

ISBN: 978-0-7020-8427-0

Category: Básico

Contact lens manual : a practical guide to fitting

Author(s): Gasson, Andrew ; Morris, Judith

Issue: Edinburgh : Butterworth Heinemann-Elsevier, 2010;

ISBN: 978-0-7506-7590-1 (rúst.)

Category: Básico

Lentes de contacto : teoría y práctica

Author(s): LÓPEZ ALEMANY, Antonio (ed.)

Issue: Xàtiva : Edicions Ulleye, 2008;

ISBN: 978-84-935497-5-6 (rúst.)

Category: Básico

Uso prolongado de lentes de contacto

Author(s): LÓPEZ ALEMANY, Antonio; SERÉS REVÉS, Carmen (eds.)

Issue: Xàtiva : Edicions Ulleye, 2003 ;

ISBN: 84-930828-1-3

Category: Básico

Materiales ópticos orgánicos

Author(s): Navarro Sentanyes, Antonio

Issue: Barcelona : Navarro Sentanyes, Antonio , 1989;

ISBN: 84-404-4619-5

Category: Básico

Polymers

Author(s): WALTON, David J.; LORIMER, J. Phillip

Issue: Oxford : Oxford University Press, 2000;

ISBN: 0-19-850389-X

Category: Complementario

Assessment

Assessment procedures and criteria 2024-25

All training activities will be subjected to continuous assessment from a particular skills profile that will consider the presentation of works, reports as well as the skills and attitudes shown during the development of these activities. There will be no written examinations.

All assessment activities, except demonstrating laboratories, can be done extraordinarily in a different time in some particular cases and only with the corresponding certification.

The teacher in charge will decide the type of test to be performed in case the student does not pass the course. None of the marks obtained in any of the proposed activities will be held from an academic year to the next, unless otherwise is considered by the teacher. If the teacher is unable to carry out any part of the continuous assessment and a retake exam is not possible, the corresponding mark will be distributed in each of the remaining parts.

| Description | Criteria | Type | Weighting system |
|----------------------------------|--|--|------------------|
| Evaluation of the computer work | Knowledgments and ability to search in scientific platforms in order to complete the necessary information to prepare both the writing report and oral presentation. | ACTIVITIES OF EVALUATION DURING THE SEMESTER | 5 |
| Observations of the professor | Skills and attitudes shown during the development of the activities (laboratory practical) | ACTIVITIES OF EVALUATION DURING THE SEMESTER | 5 |
| Oral presentations | Oral presentation of works in English. In this part, the spoken English will be evaluated (40% of these 60 points/overall 100). | ACTIVITIES OF EVALUATION DURING THE SEMESTER | 60 |
| Portfolios or lab notebook | Evaluation of laboratory notebooks. In this part, the witing English will be evaluated (30% of these 20 points/overall 100) | ACTIVITIES OF EVALUATION DURING THE SEMESTER | 20 |
| Supervised works or case studies | Written presentation of works in English. In this part, the witing English will be evaluated (40% of these 10 points/overall 100) | ACTIVITIES OF EVALUATION DURING THE SEMESTER | 10 |

Official exam dates for academic year 2024-25

| Exam session | Date | Time | Group - Classroom(s) allocated | Comments |
|---|------------|------|--------------------------------|----------|
| (C3) Periodo ordinario para asignaturas de segundo semestre y anuales | 29/05/2025 | | | |

(C4) Pruebas
extraordinarias para
asignaturas de grado y
máster

11/07/2025

Academic staff



SANSANO GIL, JOSE MIGUEL

Lecturer responsible

THEORY CLASS: Groups: 1

LAB PRACTICALS: Groups: L2

COMPUTER PRACTICALS: Groups: O1

GROUP TUTORIALS: Groups: T1

THEORETICAL/PRACTICAL SEMINAR / WORKSHOP: Groups: S1



BOSQUE MARTINEZ, IRENE

LAB PRACTICALS: Groups: L1

Groups

THEORY CLASS

| Group | Semester | Morning or afternoon session | Language | No. of enrolled students |
|--------------------------|----------|------------------------------|----------|--------------------------|
| Gr. 1 (THEORY CLASS) : 1 | 2S | All day | English | 18 |

LAB PRACTICALS

| Group | Semester | Morning or afternoon session | Language | No. of enrolled students |
|------------------------------|----------|------------------------------|----------|--------------------------|
| Gr. L1 (LAB PRACTICALS) : L1 | 2S | All day | English | 9 |
| Gr. L2 (LAB PRACTICALS) : L2 | 2S | All day | English | 9 |

COMPUTER PRACTICALS

| Group | Semester | Morning or afternoon session | Language | No. of enrolled students |
|-----------------------------------|----------|------------------------------|----------|--------------------------|
| Gr. O1 (COMPUTER PRACTICALS) : O1 | 2S | All day | English | 18 |

GROUP TUTORIALS



| Group | Semester | Morning or afternoon session | Language | No. of enrolled students |
|-------------------------------|----------|------------------------------|----------|--------------------------|
| Gr. T1 (GROUP TUTORIALS) : T1 | 2S | All day | English | 18 |

THEORETICAL/PRACTICAL SEMINAR / WORKSHOP











| Group | Semester | Morning or afternoon session | Language | No. of enrolled students |
|--|----------|------------------------------|----------|--------------------------|
| Gr. S1 (THEORETICAL/PRACTICAL SEMINAR / WORKSHOP) : S1 | 2S | All day | English | 18 |

Timetables



THEORY CLASS

| Group | Start date | End date | Day | Start time | End time | Lecture room |
|-------|------------|------------|-----|------------|----------|--|
| 1 | 28/01/2025 | 28/01/2025 | MAR | 11:30 | 14:30 | OP/0001  |
| 1 | 28/01/2025 | 28/01/2025 | MAR | 08:00 | 11:00 | OP/0001  |





LAB PRACTICALS

| Group | Start date | End date | Day | Start time | End time | Lecture room |
|-------|------------|------------|-----|------------|----------|--|
| L1 | 04/03/2025 | 04/03/2025 | MAR | 09:00 | 12:00 | 0041P1006  |
| L1 | 11/03/2025 | 11/03/2025 | MAR | 08:00 | 12:00 | 0041P1006  |
| L1 | 18/03/2025 | 18/03/2025 | MAR | 08:00 | 11:00 | 0041P1006  |
| L1 | 25/03/2025 | 25/03/2025 | MAR | 08:00 | 12:00 | 0041P1006  |
| L1 | 01/04/2025 | 01/04/2025 | MAR | 08:00 | 12:00 | 0041P1006  |
| L2 | 04/03/2025 | 04/03/2025 | MAR | 09:00 | 12:00 | 0041P1008  |
| L2 | 11/03/2025 | 11/03/2025 | MAR | 08:00 | 12:00 | 0041P1008  |
| L2 | 18/03/2025 | 18/03/2025 | MAR | 08:00 | 11:00 | 0041P1008  |
| L2 | 25/03/2025 | 25/03/2025 | MAR | 08:00 | 12:00 | 0041P1008  |
| L2 | 01/04/2025 | 01/04/2025 | MAR | 08:00 | 12:00 | 0041P1008  |









COMPUTER PRACTICALS

| Group | Start date | End date | Day | Start time | End time | Lecture room |
|-------|------------|------------|-----|------------|----------|--|
| O1 | 04/02/2025 | 04/02/2025 | MAR | 09:00 | 11:00 | A2/E23  |
| O1 | 04/02/2025 | 04/02/2025 | MAR | 11:30 | 14:30 | A2/E23  |

GROUP TUTORIALS

| Group | Start date | End date | Day | Start time | End time | Lecture room |
|-------|------------|------------|-----|------------|----------|--|
| T1 | 04/02/2025 | 04/02/2025 | MAR | 08:00 | 09:00 | A2/E23  |
| T1 | 11/02/2025 | 11/02/2025 | MAR | 08:00 | 09:00 | A2/E23  |
| T1 | 04/03/2025 | 04/03/2025 | MAR | 08:00 | 09:00 | OP/0001  |
| T1 | 15/04/2025 | 15/04/2025 | MAR | 11:30 | 14:30 | A2/E23  |

THEORETICAL/PRACTICAL SEMINAR / WORKSHOP

| Group | Start date | End date | Day | Start time | End time | Lecture room |
|-------|------------|------------|-----|------------|----------|--|
| S1 | 11/02/2025 | 11/02/2025 | MAR | 09:00 | 11:00 | A2/E23  |
| S1 | 18/02/2025 | 18/02/2025 | MAR | 08:00 | 12:00 | A2/E23  |
| S1 | 25/02/2025 | 25/02/2025 | MAR | 08:00 | 12:00 | A2/E23  |
| S1 | 08/04/2025 | 08/04/2025 | MAR | 08:00 | 11:00 | A2/E23  |
| S1 | 15/04/2025 | 15/04/2025 | MAR | 08:00 | 11:00 | OP/0001  |
| S1 | 06/05/2025 | 06/05/2025 | MAR | 08:00 | 11:00 | OP/0001  |
| S1 | 13/05/2025 | 13/05/2025 | MAR | 11:30 | 14:30 | OP/0001  |
| S1 | 13/05/2025 | 13/05/2025 | MAR | 08:00 | 11:00 | OP/0001  |