



## Sustainable Biotechnology Entrepreneurship: Microalgae & Human Food

BIP's code: 2025-1-ES01-KA131-HED-000312649-2



**Organizer:** University of Almería (Almería, Spain)

**ECTS credits for participating students:** 4

**Online period:** From late March until late June

Around 36 hours in total of individual and teamwork, including some sessions with teachers & mentors

**Onsite period:** June 30 – July 9, 2026 for students

Sessions will take place at the campus of the University in Almería, plus some field trips.

**Academic coordinators:** Prof. Tania Mazzuca

**Administrative coordinator:** [erasmusbip@ual.es](mailto:erasmusbip@ual.es)

**Academic requirements:** Undergraduate and Master students from areas related to Business, Economics, Management, Chemical or Environmental Engineering, Biology, Marine Biology, or Food Technology (other areas not excluded). Students are required to be able to communicate fluently in English, although no formal certification is required.

## PREREGISTRATION FOR STUDENTS:



<https://forms.gle/1ffeaifNtc3C4xeW6>

## LEARNING OUTCOMES

**Students that participate in this program can expect to acquire, improve or develop the following:**

### Knowledge

- Design a microalgae production project that contributes to the Sustainable Development Goals (SDGs), integrating environmental, social, and economic sustainability principles.
- Justify the selection of algae cultivation and business locations using a transdisciplinary approach that considers technical, ecological, and sociocultural factors.
- Adapt business ideas and project designs to reflect public values across different countries, including perceptions of trust, need, taste, and care for sustainability.
- Compare and select appropriate business models for microalgae-based products in diverse international contexts, demonstrating strategic and autonomous decision-making.

### Skills

- Apply problem-solving strategies to develop transdisciplinary solutions for sustainability challenges in biotechnology.
- Demonstrate critical thinking and analytical skills when evaluating project designs, data, and stakeholder perspectives.



- Manage time and prioritize tasks effectively in both individual and collaborative work settings.
- Communicate technical information clearly and appropriately through oral and written formats, tailored to diverse audiences and cultural contexts.
- Collaborate constructively with professionals from different disciplines and countries, fostering inclusive teamwork and mutual respect.

## Values

- Identify personal learning needs with an open, critical, and reflective attitude toward professional growth and performance.
- Practice proficient intercultural communication, adapting to diverse cultural norms and expectations in professional contexts.
- Construct a professional identity grounded in personal values, ethical principles, and responsible communication styles.
- Demonstrate cultural sensitivity by articulating how values, customs, and practices in other cultures influence professional behavior and decision-making.

## TENTATIVE DAILY PROGRAM OUTLINE

| Day 1: June 30 (Tue)   |
|--|
| Student Activity   |
| Reception and on-campus orientation (UAL)  |
| Icebreaking. Discussing programmed activities and information about Almeria, cultural associations, etc. Group tasks.<br>Preparing the project template presentation (5–10 min). Must be ready today.    |
| Presentation: how diverse is your group? (2 min). Ready by tomorrow morning (G3, G4, G5) or Thursday (G1, G2).<br>Discussing pills: each group prepares a 1-min briefing and questions for other groups. |
| Project template presentation (max 15 min per group)   |
| Independent work: continue working on the presented tasks  |
| Day 2: July 1 (Wed)  |
| Student Activity   |
| Meeting point  |
| Visit to Chemical Engineering Department: Naves, Pilot Plant, inoculum camera. In-situ lecture: inoculum maintenance and bioreactor types (UAL) – 1h   |



|  |  |
|--|--|
| Break  |  |
| Discussing pills: leaders G1 and G2. Presentation: how diverse is your group (G3, G4, G5)  |  |
| Canvas workshop  |  |
| Individual work. Teamwork: anecdotes from portfolios (online phase). Prepare visual/audio material. Prepare learning needs and strategies.   |  |
| <b>Day 3: July 2 (Thur)</b>  |  |
| <b>Student Activity</b>  |  |
| Circular Economy   |  |
| Break  |  |
| Discussing pills: leaders G3, G4, G5. Presentation: how diverse is your group (G1 and G2)  |  |
| <b>Day 4: July 3 (Fri)</b>   |  |
| <b>Student Activity</b>  |  |
| Kayaking in Cabo de Gata (beach to be determined) Full day at the beach. Bring sun protection, water, and food. A large umbrella is provided. Return to Auditorio Maestro Padilla around 19:30 |  |
| <b>Day 5 &amp; 6 (Sat &amp; Sun)</b>   |  |
| <b>Student Activity</b>  |  |
| Independent work for improving project template  |  |
| <b>Day 7: July 6 (Mon)</b>   |  |
| <b>Student Activity</b>  | <b>Visiting Teachers</b>   |
| Up to five parallel sessions by visiting professors. Students choose sessions relevant to their interests and project needs. Attend at least one per day.                                      | Each professor leads a 2-hour session: 1h lecture + 1h mentoring / discussion / practical work. Alternative methods encouraged. Open to UAL and promoted by International Office |
| Break  |  |
| Teamwork: sharing anecdotes from portfolio (6 min per group)   | Observing student work and participating in debates  |
| Teamwork on project template   | Visiting the welcome centre for registration   |
| Individual work  |  |
| <b>Day 8: July 7 (Tue)</b>   |  |
| <b>Student Activity</b>  | <b>Visiting Teachers</b>   |
| Meeting point. Visit to real microalgae production plant (Biorizon)  | Optional participation   |



|   |                        |
|---|------------------------|
| Teamwork mentored by visiting professors  | Mentoring teamwork     |
| Cooking session with microalgae and expert chefs. Students actively participate. Teachers encouraged to attend at least briefly.  | Observe and contribute |
| Day 9: July 8 (Wed)   |                        |
| Student Activity  | Visiting Teachers      |
| Explanation of project presentation and closing activity (independent teamwork)   |                        |
| Up to five parallel sessions by visiting professors. Students choose sessions relevant to their interests and project needs.  | Same format as Monday  |
| Break   |                        |
| Teamwork for closing activity and final presentations   |                        |
| Prepare:<br>• Project presentation (10–12 min PowerPoint)<br>• Closing activity (choose format: video, book cover, elevator pitch, musical summary, or open form – max 5 min) |                        |
| Day 10: July 9 (Thu)  |                        |
| Student Activity  | Visiting Teachers      |
| Teamwork. Peer assessment: Assessing the BIP AT 9:00 Group 5, 9:30 Group 4, 10:00 Group 3, 10:30 Group 2, 11:00 Group 1   |                        |
| Presentations (all groups)  | Assessing student work |
| Closure: farewell, photos, etc  |                        |
| Sending documents for assessment  |                        |
| Day 11: July 10 (Fri)   |                        |
| TEACHERS ONLY   |                        |
| Teaching team meeting to share evaluations and observations   |                        |
| Final grades agreed upon using official BIP criteria  |                        |
| Discussion of improvements for the BIP programme  |                        |
| Visit to International Office for certificate of attendance   |                        |

## VIRTUAL COMPONENT (**STUDENTS ONLY**)



### Preliminary steps

This is a compulsory necessary part of the course before the official kick-off (First General session: 1GS).

- Accepted participants will fill in the letter of acceptance and commitment.
- All participants must individually sign-in to the platform and explore the different tools.
- Asynchronous training will take place to get familiar with the online platform, available for students, mentors and teachers.
- Students will complete their initial diagnosis of intercultural competence development.
- Students must follow the training for Blackboard use.



### From Kick-Off On

The virtual exchange will enhance students' intercultural competence alongside project development.

- Each team will address SDG goal 2 by developing a microalgae project.
- Teams will choose a project idea, complete a template, and report monthly progress to their mentor.
- Students will improve intercultural skills, assessed before and after the virtual period.
- Experiences will be documented in individual portfolios.



### Activities Under Mentor-Coordinator Supervision

- Two online general synchronous sessions:
  - First General Session (1GS) ~March 1st
  - Second General Session (2GS) ~May 10th
  - Both held with the general coordinator, Tania Mazzuca.
- Monthly online mentoring sessions:
  - Scheduled within a one-week window suggested by the coordinator.
  - Sessions:
    - Second Formal Online Meeting (Session 1IT+M)
    - Third Formal Online Meeting (Session 2IT+M)
    - Fifth Formal Online Meeting (Session 3IT+M)



### Non-Supervised Activities

- Teams must meet online at least once a month.
- Teams must contact one stakeholder to enrich their projects.
- Students engage in self-study and self-assessment:
  - Reviewing teaching materials



- Conducting research
- Completing assessment forms
- Preparing portfolios