390221 - CAG2 - Communication Systems and Production Management

Coordinating unit: 390 - ESAB - Barcelona School of Agricultural Engineering
Teaching unit: 744 - ENTEL - Department of Network Engineering
Academic year: 2017
Degree: MASTER’S DEGREE IN ENABLING TECHNOLOGIES FOR THE FOOD AND BIOPROCESSING INDUSTRY (Syllabus 2014). (Teaching unit Compulsory)
ECTS credits: 5 Teaching languages: Spanish, English

Teaching staff
Coordinator: JORGE MATAIX OLTRA
Others: RAFAEL VIDAL FERRÉ

Prior skills
Scientific and technical degrees: graduates in agricultural engineering, food science and biosystems engineering (or related fields) with degrees of a duration equal to or greater than 240 ETCS.

Requirements
Presentiality

Degree competences to which the subject contributes

Specific:
1. Developing of criteria for selection and integration of robots and automatization systems in the food sector.
2. Ability to determine the communication and processing technologies appropiate for the control, production and distribution of food and bioproducts.
3. Designing the implementation of monitoring, control and automatization for food and biotechnological industries. Ability to detect the points of the productive chain susceptible of automatization.

Generical:
4. Ability to apply the language and techniques of industrial management in the agrifood and biotechnological sector
5. Applying of comercialization systems and logistics to the agri-food and bioprocesses sector.
6. Identification of the industrial technonologies with larger future impact and develop new applications of such technologies in the food and biotechnological industry.
7. Ability to indentify and use monitoring systems in quality control of food products.
8. Ability to assess and improve the design of processes and products considering social and environmental impacts.

Transversal:
9. SUSTAINABILITY AND SOCIAL COMMITMENT: Being aware of and understanding the complexity of the economic and social phenomena typical of a welfare society, and being able to relate social welfare to globalisation and sustainability and to use technique, technology, economics and sustainability in a balanced and compatible manner.
This course allows the student to get the tools and knowledge necessary to monitor, control and manage the different processes involved in a product transformation throughout the various stages, from receipt of the raw material to shipment.

Learning objectives of the subject

This course allows the student to get the tools and knowledge necessary to monitor, control and manage the different processes involved in a product transformation throughout the various stages, from receipt of the raw material to shipment.

Study load

<table>
<thead>
<tr>
<th>Total learning time: 125h</th>
<th>Hours large group: 40h</th>
<th>Guided activities: 5h</th>
<th>Self study: 80h</th>
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<td>32.00%</td>
<td>4.00%</td>
<td>64.00%</td>
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### Content

<table>
<thead>
<tr>
<th>Communication systems and production management.</th>
<th>Learning time: 20h</th>
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</thead>
<tbody>
<tr>
<td>Description:</td>
<td>Theory classes: 20h</td>
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<tr>
<td>Communication systems and production management.</td>
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<tr>
<td>Information and Communication Technologies (ICTs), networking, data buses. Communication and control processes: Wifi, RFID, sensor networks, smart food process.</td>
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<tr>
<th>Logistics and distribution chain.</th>
<th>Learning time: 20h</th>
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</thead>
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<td>Description:</td>
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<td>Logistics and distribution chain.</td>
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<tr>
<td>Case studies in food and bioprocess. Interactive Marketing: Objectives, importance, evolution, technologies used.</td>
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<td>The feedback customer loyalty and long-term relationships.</td>
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### Qualification system

Ongoing assessment

### Regulations for carrying out activities

Presentiality. Ongoing assessment.

### Bibliography

Communication systems and production management.

Logistics and distribution chain.