# SHORT COURSE CERTIFICATION-APPLICATION FORM

Please adjust the size of the tables at your convenience

**Formal Data**

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| Name of the short course (language of the economic region) | นวัตกรรมเทคโนโลยีการแปรรูปสำหรับอุตสาหกรรมเครื่องดื่ม |
| Name of the short course (English) | Innovative Processing Technologies for Beverage Industry |
| Contact person<br>- E-mail<br>- Telephone number<br>- Fax | Sasitorn Tongchitpakdee<br>sasitorn.ch@ku.th<br>Phone: +66819829204<br>Fax: +6625625021 |
| Web address (of the course provider) | www.sea-abt.eu |
| Start date of short course | 27-28 February, 2018 |
| Length of course (days/hours) | 2 days |
| Fees / charges to delegates | no |

**2. The rationale of the programme**

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| Educational objectives (brief statement) and Learning Outcomes (LO) | This workshop is aimed to enhance knowledge and industrial applications of innovative processing technology for beverage industry. |
| Programme outcomes (consistency with the objectives, consistency with general outcomes such as knowledge, competences and personal skills) | Knowledge about innovative technologies and their application to beverage industry. |

**3. Educational Process**

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| Overview of the syllabus | Day 1<br><br>8:30-9:00 Registration<br><br>9:00-9:15 Welcome<br><br>Assistant Prof. Dr. Sasitorn Tongchitpakdee,KU (Thailand SEA-ABT Co-Ordinator)<br><br>9:15-10:00 Overview of Innovative Processing Technology for Beverage industry<br><br>Dr. Pitiya Kamolpattna, Department of Food Science and Technology,KU<br><br>10:00-10:15 Coffee break<br><br>10:15-11:20 Membrane system for Beverage Applications<br><br>Dr. Aporn Laorko, Technical Sale & Service Manager ,Liquid Purification Engineering |

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| | International Co., Ltd.<br><br>11:20-12:30 Pulse-Electric Field Technology<br><br>Dr. Pitiya Kamolpattna, Department of Food Science and Technology, KU<br><br>12:30-13:30 Lunch<br><br>13:30-14:40 Ohmic heating<br><br>Dr. Pitiya Kamolpattna, Department of Food Science and Technology, KU<br><br>14:40-15:00 Coffee break<br><br>15:00-16:00 Microwave processing<br><br>Associatet Prof. Dr. Nantawan Therdthai, Department of Product Development, KU<br><br>Day 2<br><br>9:00-10:15 High pressure processing (HPP)<br><br>Assistant Prof. Dr. Pitiya Kamolpattna, Department of Food Science and Technology, KU<br><br>10:15-10:30 Coffee break<br><br>10:30-11:30 Microbiological aspects of high pressure processing<br><br>Assistant Prof. Dr. Wannasawat Ratphitagsanti, Department of Product Development, KU<br><br>11:30–12:30 High Pressure Homogenization for |

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| | Beverage Applications<br><br>Ms. Phatcharin Rungthavon, F&B Key Account Sales Manager, SPX FLOW, Inc.<br><br>12:30-13:30 Lunch<br><br>13:30-14:30 UV Technology<br><br>Assistant Prof. Dr. Chitsiri Rachtanapun (Thongson), Department of Food Science and Technology, KU<br><br>14:30-14:50 Coffee break<br><br>14:50-15:50 Cold Plasma Technology<br><br>Mr. Krit Lajaroj, Febix, Inc.<br><br>15:50-16:15 Wrap up & Evaluation |
| Learning and assessment (methods of assessment of LO as in Section 2.) | Discussion |
| Alignment matrix with European Qualification Framework (see Annex I) | Level 6<br><br>(Equivalent to first cycle, Bachelor's degrees) |

**4. Resources**

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| Teaching and support staff (names, qualifications, number, and relevant professional experience and activities) | 1. Assistant Prof. Dr. Pitiya Kamolpattna, Department of Food Science and Technology, KU<br><br>Ph.D. (Food Engineering)<br><br>2. Assistant Prof. Dr. Wannasawat Ratphitagsanti, Department of Product Development, KU<br><br>3. Assistant Prof. Dr. Chitsiri Rachtanapun (Thongson), Department of Food Science and Technology, KU<br><br>4. Ms. Phatcharin Rungthavon, F&B Key Account Sales Manager, SPX FLOW, Inc.<br><br>5. Dr. Aporn Laorko, Technical Sale & Service Manager ,Liquid Purification Engineering International Co., Ltd.<br><br>6. Mr. Krit Lajaroj, Febix, Inc. |

**5. Quality Assurance System**

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| How will the success of the course objectives and outcomes be assessed? | Evaluation Form |
| Describe the educational process. | Participants gain knowledge through lecture and discussion with instructor. |
| Give an analysis of student results (for courses that have run previously) | Participants are able to answer question and discuss with instructor during the course, showing that they understand the content. They also asked many question during the course. |
| Give an analysis of feedback from students (for courses that have run previously) | Overall students agree with satisfaction for the course. |
| Give an analysis of feedback from employers (for courses that have run previously) | Employers who attend the course give feedback of satisfaction for instructors and contents. |

**6. Supporting information about the study programme**

*Indicative headings and content guidance – please consider which of these you wish use and then expand and develop.*

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| Context (particularly where the course has been run on several occasions)<br>• How does it fit within the field of study or practice? What is its main purpose?<br>• How was it developed?<br>• How is it kept up to date? | This CPD is quite fit to beverage technology academy. Innovative Processing Technologies course is able to give idea of process innovation to employers in beverage industry. The course is developed by problem base in real situation of |

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| | beverage industry. The context will be kept up to date annually according to novel technologies and case from industry. |
| *Performance*<br>• What does employer / practitioner / professional body feedback reveal about the relevance of the course (where applicable)<br>• What effects does completing the course have on the career path of the students? | In general, the employer was satisfied with the course and will send another employee to attend the course next time depending on course fee and availability of their employee. |
| *Quality & Standards Management*<br>• How effective is the assessment strategy in supporting and demonstrating the fulfilment of the learning outcomes, and in discriminating between different levels of performance?<br>• How effective are the processes for giving feedback to students on their progress and work?<br>• Has student feedback led to any changes in the course?<br>• Show how internal and external bodies help ensure the quality standards of the course | In the next training, post exam may be used to evaluate the performance to participants. This will help the instructor to obtain more information to improve their content and teaching method. |
| *Course Design & Development*<br>• Describe any employer / practitioner / professional body contribution to course design and their involvement in course developments.<br>• Explain how students have contributed to the course design and development<br>• How do you expect the course to develop in the next three years? | This course consists of many instructors both in academic and private sector, who are experts in innovative technologies or providing different innovation technologies. They involved in designing the course using their expertise. Please see list of instructors below.<br>1. Assistant Prof. Dr. Pitiya Kamolpattna, Department of Food Science and Technology, KU<br>Ph.D. (Food Engineering)<br>2. Assistant Prof. Dr. Wannasawat |

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| | Ratphitagsanti, Department of Product Development, KU<br>3. Assistant Prof. Dr. Chitsiri Rachtanapun (Thongson), Department of Food Science and Technology, KU<br>4. Ms. Phatcharin Rungthavon, F&B Key Account Sales Manager, SPX FLOW, Inc.<br>5. Dr. Aporn Laorko, Technical Sale & Service Manager ,Liquid Purification Engineering International Co., Ltd.<br>6. Mr. Krit Lajaroj, Febix, Inc.<br>Students have contributed to the course design and development by giving feedback.<br>In the next three years, the course should be update with more innovative technology. Post test could be applied for better evaluation. |
| *Additional information* (Optional: please add anything that will support your application). | |

**Annex 1. Educational Levels as Defined by the European Qualification Framework for Lifelong-learning**

| *Each of the 8 levels is defined by a set of descriptors indicating the learning outcomes relevant to qualifications at that level in any system of qualifications.* | **KNOWLEDGE**<br>In the context of EQF, knowledge is described as theoretical and/or factual. | **SKILLS**<br>In the context of EQF, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments). | **COMPETENCE**<br>In the context of EQF, competence is described in terms of responsibility and autonomy. |
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| Level 1 | Basic general knowledge | Basic skills required to carry out simple tasks | Work or study under direct supervision in a structure context |
| Level 2 | Basic factual knowledge of a field of work or study | Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools | Work or study under supervision with some autonomy |
| Level 3<br>(Equivalent to school leaving qualifications, eg UK A-levels) | Knowledge of facts, principles, processes and general concepts, in a field of work or study | A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information | Take responsibility for completion of tasks in work or study<br>Adapt own behaviour to circumstances in solving problems |
| Level 4<br>(Equivalent to first cycle, certificate level) | Factual and theoretical knowledge in broad contexts within a field of work or study | A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study | Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change<br>Supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities |
| Level 5<br>(Equivalent to first cycle, diploma level) | Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge | A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems | Exercise management and supervision in contexts of work or study activities where there is unpredictable change<br>Review and develop performance of self and others |

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| Level 6<br>(Equivalent to first cycle, Bachelor's degrees) | Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles | Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study | Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts<br>Take responsibility for managing professional development of individuals and groups |
| Level 7<br>(Equivalent to second cycle, Master's degrees) | Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research<br>Critical awareness of knowledge issues in a field and at the interface between different fields | Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields | Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches<br>Take responsibility for contributing for professional knowledge and practice and/or for reviewing the strategic performance of teams |
| Level 8<br>(Equivalent to third cycle, doctorates) | Knowledge of the most advanced frontier of a field of work or study and at the interface between fields | The most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice | Demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research |