Course Syllabus

Department of Food Technology
Faculty of Biotechnology
Atma Jaya Catholic University of Indonesia

Table of Contents

<table>
<tr><td>Course designation</td><td><u>Introduction to Information Technology</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>1st Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Dr. Listya U. Karmawan</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 123</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain the history of information technology and its role in biotechnology
2. Students are able to operate basic softwares to support education process
3. Students are able to discuss various information literacy skills
4. Students are able to explain various applications of information technology in related to biotechnology</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
In this course, students will be introduced to information technology and its application in the field of Biotechnology in relation to Industry 4.0, the use of the Internet of Things (IoT), and big data. In addition, basic skills and literacy in information technology include Microsoft Office skills (MS Word, MS Excel, MS Powerpoint), basic image processing skills and software for reference management to facilitate scientific writings. This course consists of 2 credits of lectures.</td></tr>
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<table>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>35%</td></tr><tr><td>Assignment</td><td>30%</td></tr><tr><td>Final Exam</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Aksoy, P., & DeNardis, L. (2007). Information Technology in Theory. Retrieved from https://books.google.co.id/books?id=KGS5IcixljwC
Fox, R. (2013). Information Technology: An Introduction for Today’s Digital World. Retrieved from https://books.google.co.id/books?id=Y4bNBQAAQBAJ
ICAP. (2013). Introduction to Information Technology. Emile Woolf International.</td></tr>
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<table>
<tr><td>Course designation</td><td><u>English</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>1st Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Annery Fienta, S.Pd., M.Hum.</td></tr>
<tr><td>Language</td><td>English & Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 125</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to understand the correct English structures in the form of sentences, readings, and able to apply it by writing articles</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
Students generally have a strong foundation of English competence acquired during elementary, junior high, high school, and family. Unfortunately, in understanding and speaking English, such as reading or writing, they still tend to ignore the correct use of English structures. In this English course, the use of TOEFL test materials is intended to encourage students to be aware of the correct use of English structures, so that when they have to read or write in English, they can understand and use the right structure. In terms of reading, through the TOEFL test materials, they are taught to quickly capture the content of the reading in English. In writing, students are taught to organize their writing systematically. In addition, TOEFL test are also expected to help them to get a job in the future. This course consists of 2 (two) credits of lectures.</td></tr>
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<table>
<tr><td>Examination forms</td><td>✓ Written test
Oral test
Performance test (practical)
✓ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>30%</td></tr><tr><td>Assignment/Quiz 1</td><td>15%</td></tr><tr><td>Assignment/Quiz 2</td><td>25%</td></tr><tr><td>Final Exam</td><td>30%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Main : Philips, D. (2003). Preparation course for the TOEFL test: The paper test. White Plains, NY: Pearson Education.
Internet Source : English Structure Exercises</td></tr>
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<table>
<tr><td>Course designation</td><td><u>Basic Chemistry</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>1st Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Jimmy Suryadi, Ph.D.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture, practicum</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
<tr><td>Practicum</td><td>1 * 170 min</td><td>16</td><td>45,3 hour</td></tr>
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*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
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<tr><td>Credit points</td><td>Credits: 3 (2-1)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 115</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to understand the laws and basic fundamentals of chemistry
2. Students are able to perform calculations related to chemistry and chemical reactions
3. Students are able to identify various types of chemical compounds and their characteristics</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
Basic Chemistry is a basic and compulsory course, which consists of lectures and practicum and is intended so that students can understand basic concepts in chemistry that are required in the next courses at the Faculty of Biotechnology. During practicum, students practice to use equipments in the chemistry laboratory and understand chemical reactions in practical and real terms. This course consists of 2 credits of lectures and 1 credit of practicum.</td></tr>
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<table>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☑ Performance test (practical)
☑ Assignments (papers, projects, portfolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm (written)</td><td>30%</td></tr><tr><td>Assignment 1 (practicum)</td><td>30%</td></tr><tr><td>Assignment/Quiz 2</td><td>10%</td></tr><tr><td>Final Exam (written)</td><td>30%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Achmad H, Tupamahu MS. 2001. Stoikiometri Energetika Kimia. Bandung: Citra Aditya Bakti.
Fessenden RJ, Fessenden JS, Pudjaatmaka AH (Translator). 2009. Organic chemistry. Jakarta: Erlangga
Fakultas Bioteknologi. 2015. Penuntun Praktikum Kimia Dasar. Jakarta: Universitas Katolik Indonesia Atma Jaya
Additional:
Achmad H. 2001. Wujud Zat dan Kesetimbangan Kimia. Bandung: Citra Aditya Bakti.
Bettleheim FA, Brown WH, Campbell MK, Farrel SO. Introduction to General, Organic, and Biochemistry. 9th ed. 2010.</td></tr>
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<table>
<tr><td>Course designation</td><td><u>Calculus</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>1st Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Dra. Kumala Indriati, M.Si</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>3 * 170 min</td><td>16</td><td>136 hour</td></tr>
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</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (3-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 117</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students understand the concept of matrix algebra, operations on matrices, Elementary Transformations in Matrices (S9,KU1,KU2,KK1,KK6,PP1) Students understand elementary transformations to find matrix inverse using the sweeping method, find matrix ranks Understand the concept of determinants using Laplace's Theorem and its properties and can apply it to find SPL answers using the Crammer method
2. Students understand the concept of adjoint a matrix to find the Inverse of a matrix that is square. (S9,KU1,KU2,KK1,KK6,PP1)
3. Students understand being able to apply the meaning of rank, to find answers to the Linear Equation System (S9, KU1, KU2, KK1, KK6, PP1) Students can find answers to Homogeneous SPL Students can find answers to non-Homogeneous SPL
4. Students understand the concept of continuous/discontinuous functions, the concept of limits</td></tr>
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	(S9, KU1, KU2, KK1, KK6, PP1) Calculating the limits of indeterminate shapes 5. Students understand the definition of differential, along with its rules and are able to calculate differentials. (S9,KU1,KU2,KK1,KK6,PP1) Able to find differentials of elementary functions, arranged functions and differentiate logarithmicly Able to find differentials of parameter functions, and implicit functions Students are able to apply differentials to calculate extreme prices 6. Students understand the definition of Integral and integral properties. (S9,KU1,KU2,KK1,KK6,PP1) Understand and be able to solve indeterminate integral elementary functions, trigonometric functions and partial integrals Understand and be able to solve Integrals with Trigonometric substitution.
Content	**Course Description:** In the middle of the first semester, students learn the concept of matrices, elementary transformations in matrices, matrix ranks, determinants and inverse matrices and matrix applications to find answers to the Linear Equation System. Then by using the student limit to understand the meaning of differentiation as the rate of change, students will also Learn the differentials of elementary functions, differential parameter functions and differential implicit functions, applying differentials to find extreme prices as well as those extreme types. Furthermore, students will learn Integral as the limit of the sum of the area of rectangles called Riemann summation. Students will also learn various integralization techniques, both integral of elementary functions and trigonometric functions.
Examination forms	☑ Written test ☐ Oral test ☐ Performance test (practical) ☐ Assignments (papers, projects, portfolios, products)

<table>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>40%</td></tr><tr><td>Assignment/Quiz 1</td><td>10%</td></tr><tr><td>Assignment/Quiz 2</td><td>10%</td></tr><tr><td>Final Exam</td><td>40%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Indriati, Kumala, KALKULUS DASAR UNTUK PERGURUAN TINGGI, UPT Atma Jaya, 2019
Vektor, dan Program Linier, Universitas Atma Jaya, 2018</td></tr>
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<tr><td>Course designation</td><td><u>Introduction to Food Biotechnology</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>1st Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Anastasia Tatik Hartanti, M.S</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
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<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
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<tr><td>Credit points</td><td>Credits: 3 (3-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 119</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain the definition of food security and the role of biotechnology in achieving it and students are able to find scientific reference sources for writing a final lecture project and formulate innovative findings in one of the journal articles
2. Students are able to explain the definition of biotechnology, the biological revolution, and its prospects in the food sector as well as describe the history of biotechnology development
3. Students are able to explain the central dogma of molecular biology, principles, examples, and applications of genetic engineering
4. Students are able to explain the use of biotechnology for health, such as the principles of molecular diagnostics, vaccine development, and detection of infectious diseases
5. Students are able to explain and provide examples of the use of biotechnology for environmental sustainability, such as bioremediation.
6. Students are able to describe the use of biotechnology in the field of agriculture and food, such as GMO technology and</td></tr>
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<tr><td></td><td>for example, the concept of nutrigenomics and nanotechnology in food
7. Students are able to explain the principles of biomaterial engineering
8. Students are able to relate biotechnology innovations to potential risks, ethics, and problems that occur in the controversy over the use of biotechnology
9. Students are able to show and prove examples of food biotechnology products that have been applied to life (food, medical, agricultural, marine, forensics, environmental aspects)</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
Biotechnology is a technique for utilizing living things and their products for the welfare of mankind. In this course, various aspects are conveyed that play a major role in leading students into the field of modern biotechnology (exchange of genetic material) and its applications, especially in the field of food. This course explains the development of biotechnology, starting from the history and principles of biotechnology to the development of genetic material manipulation applied in producing new varieties of organisms, both to produce foodstuffs, vaccines, and other purposes that are useful for the welfare of the community. Briefly the principles of genetic engineering technology and its application in the fields of agriculture, food and nutrition, health, and the environment as well as issues around ethics and regulations related to food biotechnology and the use of genetically modified organisms will be taught. Activities in this lecture include lecture preparation (reading material before the lecture day), lectures, discussions, and assessment of learning outcomes in each lecture week.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
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Reading list	Wardani, AK, Wijayanti, SD, Widyastuti E. 2017. Pengantar Bioteknologi. Ed.2. Malang: UB Press Winarno FG, Agustinah W. 2007. Pengantar Bioteknologi. Ed revisi. Bogor: MBrio Press. Winarno FG, Koswara S. 2002. Food Science Glossary Biotechnology. Bogor: Mbrio Press. Thieman WJ, Palladino MA. 2004. Introduction to Biotechnology. San Fransisco: Pearson Education, Inc. Renneberg R. 2008. Biotechnology for Beginners. New York: Elsevier.

<table>
<tr><td>Course designation</td><td><u>Humans, Food, and the Environment</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>1st Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Anastasia Tatik Hartanti, M.S</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
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<tr><td>Credit points</td><td>Credits: 3 (3-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 127</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain human physiology, especially digestion; basic concepts of food and nutrition; basic concepts of food and community (S6, S9, KU1, KU2, KK1, KK3, PP1, PP2)
2. Students are trained to be creative and independent in thinking through group assignments and are expected to know the basic concepts of food and life (S6, S9, KU1, KU2, KK1, KK3, PP1, PP2).</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
The Human, Food, and Environment course will provide comprehensive knowledge to students about human physiology, especially digestion; basic concepts of food and nutrition; basic concepts of food and environment. This course requires students to carry out self-learning through group assignments for presentations and making papers/papers on humans, food, and the environment. Thus it can train students in increasing knowledge and insight about the use of food waste for food; plants as food resources; Mushrooms as food, the role of microorganisms in humans, environmental impacts on the food supply chain.</td></tr>
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<table>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:<table><tr><td>Midterm</td><td>35%</td></tr><tr><td>Assignment/Quiz 1</td><td>10%</td></tr><tr><td>Assignment/Quiz 2</td><td>10%</td></tr><tr><td>Assignment/Quiz 3</td><td>10%</td></tr><tr><td>Final Exam</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Arif, Ahmad. 2021. Masyarakat Adat & Kedaulatan Pangan. Indonesia: Gramedia.
Baldwin, C. 2009. Sustainability in the Food Industry. USA: Wiley-Blackwell & IFT Press.
Behrens, B., Bosker, T., and Ehrhardt, D. 2020. Food and Sustainability. UK: Oxford University Press.
Duncan, J., Carolan, M., and Wiskerke, J.S.C. 2021. Routledge Handbook of Sustainable and Regenerative Food Systems. New York: Routledge Taylor & Francis Group.
Fukushi, K., Hassan, K. M., Honda, R., and Sumi, A. 2010. Sustainability in Food and Water. New York: Springer.
Goyal, M.R., Suleria, H.A.R., and Kirubanandan, S. 2020. Technological Processes for Marine Foods, From Water to Fork. USA: Apple Academic Press.
Khan, K.A., Goyal, M.R., and Kalne, A.A. 2020. Processing Fruits and Vegetables, From Farm to Fork. USA: Apple Academic Press.
Lawrence, G., Lyons, K., and Wallington, T. 2010. Food Security, Nutrition and Sustainability. UK: Earthscan.
Morawicki, R.O. 2012. Handbook of Sustainability for the Food Sciences. USA: WileyBlackwell.
Taylor, M.R., Simon, E.J., Dickey, J.L., Hogan, K.A., and Reece, J. B. 2021. Campbell Biology: Concepts & Connections. USA: Pears</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Multiculturalism</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>Even/Odd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Drs. Benyamin Molan</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
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</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: UAJ 180</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain the importance of Multiculturalism in life
2. Students are able to explain Multiculturalism; lism and ethics in the life of the nation and state
3. Students are able to explain the core values in Multiculturalism
4. Students are able to design a project in an effort to live Multiculturalism in people's lives
5. Students are able to write reflections from the activities designed</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
The Multiculturalism course is intended to foster students' awareness of the plurality dimension of human society, especially Indonesian society and develop the ability to be multicultural. To achieve this goal, students will be guided to understand that multiculturalism is a concept of behavior and thinking patterns that continue to be developed in the face of the conditions of a pluralistic society. This concept continues to be developed as a continuous process in order to organize a plural</td></tr>
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<table>
<tr><td></td><td>society (to be) into a multicultural society (Being). In a multiculturalistic society, there is harmony that makes life peaceful, peaceful and stable in harmony and continues to develop and be dynamic in diversity. In its freedom, every citizen is free to express and develop himself in all aspects (dynamic). In equality, every citizen respects the same freedom that also exists in others (stable).</td></tr>
<tr><td>Examination forms</td><td>- Written test
- Oral test
- Performance test (practical)
- Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>30%</td></tr><tr><td>Assignment 1 (Individual)</td><td>15%</td></tr><tr><td>Assignment 2 (Group)</td><td>20%</td></tr><tr><td>Final Exam (Summative + paper)</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Molan, Benyamin. 2015. Multikuluralisme: Cerdas Membangun Hidup Bersama yang Stabil dan Dinamis, Jakarta: Indeks
Murniati Agustian. 2015. 2015. Pendidikan Multikultural. Jakarta: Penerbit Universitas Katolik Indonesia Atma Jaya
Ata Ujan, Andre, et al. 2009. Multikulturalisme: Belajar Hidup Bersama dalam Perbedaan. Jakarta: Indeks
Nani Nurrahman (ed.) 2022. Aku Orang Indonesia: Persilangan Generasi, Budaya, dan Era Zaman. Jakarta: Konsorsium Psik Kultural Indonesia & Kompas Penerbit Buku.
Parsudi Suparlan. 2004. Hubungan Antar-Suku Bangssa. Jakarta: YPKIK
Parekh, Bukhu. 2000. Rethinking multiculturalism: Cultural Diversity and Policital Theory. New York: Palgrave.</td></tr>
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<table>
<tr><td>Course designation</td><td><u>Pancasila</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>Even/Odd semester</td></tr>
<tr><td>Person responsible for the course</td><td>Febiana Rima K, M.Hum</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
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<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: PAN 100</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain the importance of Citizenship Education as a process of 'Indonesianization' in the framework of active participation of citizens in the life of the nation and state and national development
2. Students are able to explain the understanding of the typical Indonesian state and the process of becoming an Indonesian nation-state
3. Students are able to explain the crikhas of Indonesia as a nation and archipelago, as well as a democratic state of law and the importance of law enforcement for the upholding of democratic values
4. Students are able to explain Indonesia's geopolitics and geostrategy in order to maintain the existence of the Republic of Indonesia</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
The Pancasila Education course discusses the historical foundations of Pancasila, the national values contained in Pancasila, and the implementation of these values in the life of the nation and state.</td></tr>
</table>

<table>
<tr><td></td><td></td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☑ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>30%</td></tr><tr><td>Assignment 1 (Individual)</td><td>10%</td></tr><tr><td>Assignment 2 (Group: presentation proposal)</td><td>15%</td></tr><tr><td>Assignment 3 (Group: project result)</td><td>15%</td></tr><tr><td>Final Exam</td><td>30%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Kasdin Sihotang, dkk (2014), Pendidikan Pancasila, Jakarta: Penerbit Atma Jaya.</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Biophysics</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>2nd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Daru Seto Bagus Anugrah, S.Si., M.Eng.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>3 * 170 min</td><td>16</td><td>136 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (3-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 128</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain the basic concept of mechanics in biological process
2. Students are able to explain the basic concept of thermodynamics in biological process
3. Students are able to explain the basic concept of waves and sounds in biological process
4. Students are able to explain the basic concept of electricity and magnetism in biological process
5. Students are able to explain the basic concept of nanotechnology in biological process</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
On this course, students will learn about the concept of physics. The learning materials to be studied are particle kinematics and dynamics, work and energy, impulse and momentum, rotation and torque, fluid statics and dynamics, thermodynamics, electricity, magnetism, and waves. This course consists of 3 credits of lectures.</td></tr>
</table>

<table>
<tr><td>Examination forms</td><td>☑ Written test
☑ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>25%</td></tr><tr><td>Assignment/Quiz 1 (Oral test)</td><td>25%</td></tr><tr><td>Assignment/Quiz 2 (Coursera course)</td><td>10%</td></tr><tr><td>Assignment/Quiz 3 (Exercise)</td><td>15%</td></tr><tr><td>Final Exam</td><td>25%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Diao AL, Gunawan AW, Aruan DA, Kusuma S, Adriyanto S. 2014. Literasi Informasi: 7 Langkah Knowledge Management. Jakarta (ID): Universitas Atma Jaya Pr.
Pedoman Program Kreativitas Mahasiswa, Ed. 2020.
Informasi dari Direktorat Jenderal Hak Kekayaan Intelektual, Kementrian Hukum dan Hak Asasi Manusia Republik Indonesia.</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Indonesian</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>2nd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Sri Hapsari Wijayanti, S.S., M.Hum.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 114</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to have a sense of pride and awareness of using Indonesian orally and in writing correctly
2. Students are able to apply the understanding and knowledge of language, writing code of ethics, and basic knowledge of biology and technobiology in writing scientific papers
3. Students are able to uphold the ethical code of scientific writing
4. Students are able to collaborate in designing writings or researches, creating scientific works, and presenting it in public</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
The Indonesian Language Course teaches how to express ideas in Indonesian in a logical and orderly manner both verbally and in writing in standard scientific forms. Spoken Indonesian is practiced in scientific presentations, while written Indonesian is practiced in writing scientific papers, such as scientific essays/articles, papers, and simple research proposals. This lecture consists of 2 credits of lectures.</td></tr>
</table>

<table>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☑ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>30%</td></tr><tr><td>Assignment/Quiz 1</td><td>15%</td></tr><tr><td>Assignment/Quiz 2</td><td>20%</td></tr><tr><td>Final Exam</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Priority:
Wijayanti, Sri Hapsari., Amalia Candrayani, Ika Endang.Sri.Hendarwati, dan Jati Wahyono Agustinus. 2014. Bahasa Indonesia Penulisan dan Penyajian Karya Ilmiah. Depok: Rajagrafindo Persada.
Additional:
Badan Pengembangan dan Pembinaan Bahasa Kemendikbud. 2017. Tata Bahasa Baku Bahasa Indonesia.
Badan Pengembangan dan Pembinaan Bahasa Kemendikbudristek. 2021. https://pasti.kemdikbud.go.id/
Badan Pengembangan dan Pembinaan Bahasa Kemendikbudristek. 2022. Ejaan Bahasa Indonesia yang Disempurnakan Edisi V. https://ejaan.kemdikbud.go.id/
Badan Pengembangan dan Pembinaan Bahasa Kemendikbud. 2017. Tata Bahasa Baku Bahasa Indonesia.
Direktorat Jenderal Pembelajaran dan Kemahasiswaan Kementerian Riset, Teknologi, dan Pendikan Tinggi. 2016. Bahasa Indonesia untuk Perguruan Tinggi. Buku Ajar Mata Kuliah Wajib Umum Bahasa Indonesia. Jakarta: Direktorat Jenderal Pembelajaran dan Kemahasiswaan Kementerian Riset, Teknologi, dan Pendikan Tinggi
Direktorat Pembelajaran dan Kemahasiswaan Kemendikbudristek. 2024. Program Kreativitas Mahasiswa. https://simbelmawa.kemdikbud.go.id/portal/penerimaan-proposal-pkm-2024/
Kalidjernih, Freddy K. 2010. Penulisan Akademik. Jakarta: Widya Aksara Press.</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Fermented Food and Nusantara Culinary</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>2nd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Dr. Ir. Tati Barus, MSi</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 126</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students can explain that fermented food is the work of microorganisms, the types of fermented foods in Indonesia and how they are made, and the superiority of fermented foods.
2. Students can explain the important role of fermented foods in the balance of intestinal microbiota and health.
3. Students can explain about the variety of fermented food cuisine in Indonesia and its presentation.</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
Students can explain about: 1. The variety and process of making Indonesian fermented food and its variety of cuisine. 2. The basis for the important role of fermented food in health.</td></tr>
</table>

<table>
<tr><td>Examination forms</td><td>☑ Written test
☑ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>35%</td></tr><tr><td>Assignment/Quiz 1</td><td>10%</td></tr><tr><td>Assignment/Quiz 2</td><td>10%</td></tr><tr><td>Assignment/Quiz 3</td><td>10%</td></tr><tr><td>Final Exam</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>History of tempeh and tempeh products (1815-2011): Extensively annotated Bibliography and sourcebookCompiled. William Sshurtleff & Akiko Aoyagi. 2011
You Are What You Eat Cookbook. Dr Gillian McKeith, 2007
Microbiology and Biotechnology. E.M.T. El-Mansi • C.F.A. Bryce • B. Dahhou S. Sanchez • A.L. Demain • A.R. Allman. 2012.
The essential book of fermentation: the great taste and good health. Jeff Cox. 2013
Fermented Milk and dairy products. M.J.R. Nout and Prabir K. Sarkar. 2015.</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Biochemistry</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>2nd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Prof. Dr. Ir. Maggy T. Suhartono</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>3 * 170 min</td><td>16</td><td>136 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (3-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 118</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to understand the unique characteristics of living organisms and cells, and able to explain different parts and funtions of cells
2. Students are able to understand the concept of biomolecules
3. Students are able to explain the structures and characteristics of different kinds of amino acids
4. Students are able define the primary, secondary, tertiary and quarternary structure of protein and explain the functions of some examples of functional proteins
5. Students are able to understand the analysis, extraction, and purification of protein
6. Students are able to understand the characteristics, roles, and kinetics of enzyme
7. Students are able to understand the reactions that produce ATP, glycolysis, Krebs cycle, electron transport, and beta oxidation
8. Students are able to differentiate the light and dark reaction of photosynthesis</td></tr>
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<table>
<tr><td></td><td>
9. Students are able to define the structure of DNA, RNA, and enzyme or protein that partake in the process of replication, transcription, and translation
10. Students are able to understand the principles of biochemistry in new era of biotechnology, genetic manipulation, and bioinformatic
</td></tr>
<tr><td>Content</td><td>
<u>Course Description:</u>
Biochemistry provides an understanding of biomolecules, cells and their parts as locations for biochemical reactions, the character of amino acids and proteins and their separation principles, biochemistry and enzyme kinetics, some examples of functional proteins, energy metabolism (glycolysis, Krebs cycle, electron transport, fatty acid oxidation, and photosynthesis), nucleic acid biochemistry, replication, transcription, and translation. This course consists of 3 credits of lectures.
</td></tr>
<tr><td>Examination forms</td><td>
☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)
</td></tr>
<tr><td>Study and examination requirements</td><td>
Rating Weight:
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<tr><td>Midterm</td><td>40%</td></tr>
<tr><td>Assignment/Quiz 1</td><td>10%</td></tr>
<tr><td>Assignment/Quiz 2</td><td>10%</td></tr>
<tr><td>Final Exam</td><td>40%</td></tr>
<tr><td>Total</td><td>100%</td></tr>
</table>
</td></tr>
<tr><td>Reading list</td><td>

Lehninger A. 2000. Principles of Biochemistry. Terjemahan ke dalam bahasa Indonesia oleh Maggy Thenawidjaja. Jilid 1, 2, 3. Jakarta: Penerbit Erlangga.
Thenawidjaja Maggy, Debbie S Retnoningrum dan Wangsa Tirt Ismaya. 20117. Protein. Serial Biokimia Mudah dan Menggugah. Penerbit Gramedia. Jakarta 241 hal.
Voet D, Voet JG, Pratt CW. 2002. Fundamentals of Biochemistry. 2002. John Wiley and Sons.
Garrelt RH, Grishman CM. 1999. Biochemistry. Saunders College Publishing.

</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Biochemistry Laboratory</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>2nd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Yanti</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Practicum</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Practicum</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (0-2)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 122</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to identify the various biochemical instruments, how they work, their functions and able to use it at experimental practicum at biochemistry laboratory
2. Students are able to explain the principles, analyses, extraction methods, and solubilities, and the analytical instrument used for biomolecules (protein, carbohydrate, fat, and nucleic acid) analysis
3. Students are able to master the usage of various biochemicistry laboratory instruments used for qualitative and quantitative analysis, and characterize biomolecules (protein, carbohydrate, fat, and nucleic acid)
4. Students are able to comprehend analysis methods and results interpretation qualitatively and quantitatively from the experiments at biochemistry laboratory</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
This course provides basic understanding and laboratory skills in various biochemical topics, including protein extraction and</td></tr>
</table>

<table>
<tr><td></td><td>analysis methods, enzyme characteristics and kinetics, carbohydrate extraction and enzymatic reactions to break down carbohydrates, lipid biochemical reactions, photosynthesis, and nucleic acid extraction. This course consists of 2 credits of practicum.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☑ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>25%</td></tr><tr><td>Assignment/Quiz 1</td><td>50%</td></tr><tr><td>Final Exam</td><td>25%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Main:
Lehninger Principles of Biochemistry (4th Ed.) Nelson, D., and Cox, M.; W.H. Freeman and Company, New York, 2005.

Additional:
Text book and journal abour biochemistry laboratory engineering</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Bioanalytical Chemistry</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>2nd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Jimmy Suryadi (Ph.D.)</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture, practicum</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 100 min</td><td>16</td><td>53,3 hour</td></tr>
<tr><td>Practicum</td><td>1 * 170 min</td><td>16</td><td>45,3 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (2-1)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 124</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Understand the concepts of quantitative and qualitative analysis (S9, P2)
2. Understand the principles of titrimetric analysis and be able to perform titration (S9, KU7, KU9, P10)
3. Understand the principles and be able to nail the separation and extraction of chemical compounds (S9, KU7, KK4, P2)
4. Understand the principles of chromatography and be able to perform chromatographic analysis (S9, KU7, KU9, KK4, P2)
5. Understand and be able to perform analysis using the gravimetric method (S9, P10)
6. Understand the concept of spectrophotometry and be able to perform analysis with a spectrophotometer (S9, KU7, KU9, KK4, P10)
7. Understand and be able to perform biomolecular analysis methods and natural material chemistry. (S9, KU7, KU9, KK4, P9)</td></tr>
</table>

<table>
<tr><td></td><td>8. Understanding the principles of mass spectrometry (S9, P2)</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
Bioanalytical chemistry is a compulsory course, which is the application of various techniques and methods of analyzing chemical compounds, especially organic and natural compounds using the basic principles of chemical instrumentation. This course consists of 2 credits of lectures and 1 credit of practicum.</td></tr>
<tr><td>Examination forms</td><td>✓ Written test
Oral test
✓ Performance test (practical)
✓ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>30%</td></tr><tr><td>Practicum/Assignment 1</td><td>30%</td></tr><tr><td>Assignment/Quiz 2</td><td>10%</td></tr><tr><td>Final Exam</td><td>30%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Skoog, West, Holler and Crouch, 2004, “Fundamental of Analytical Chemistry”, Brooks/Cole, US.
Underwood, A.L. and Day, R.A., 2002, “Analisis Kimia Kuantitatif”, Edisi ke 6. Erlangga, Jakarta..
Abdul Rahman, 2007, “Kimia Farmasi Analisis”, Pustaka Pelajar, Yogyakarta.
Gary D. Christian, 2004, “Analytical Chemistry”, 6th Edition. Wiley.
Modul Praktikum Kimia Bioanalitis, FTb, Unika Atma Jaya Jakarta 2017.</td></tr>
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<table>
<tr><td>Course designation</td><td><u>Logics</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>Even/Odd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Drs. Kasdin Sihotang, M.Hum.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: UAJ 160</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain the obstacles, levels, and standards of critical thinking
2. Students are able to explain and find the correlation of critical thinking and arguments
3. Students are able to build critical, logical, and responsible arguments
4. Students are able to identify the elements, quality, and quantity of terms and propositions
5. Students able to draw conclusion and determine to truth value of direct reasoning (opposition and conversion)
6. Students are able to identify, draw concusion, and explain deduction and induction inferences
7. Students are able to identify various fallacies in thinking in society
8. Students are able to compose article critically and analytically</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
This course discusses various matters related to critical thinking and to develop students thinking pattern and language. In</td></tr>
</table>

<table>
<tr><td></td><td>support of that, the material that will be discussed is an introduction to the limitation to critical thinking, the meaning of critical thinking, levels and elements of critical thinking, the standards of critical thinking, concepts, understandings, arguments, reasonings, syllogisms, inductions, and critical reading and writing, as well as, recognizing various errors in critical thinking. This course consists of 2 credits of lectures.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☑ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm (Summative + project)</td><td>30%</td></tr><tr><td>Assignment 1 (Individual)</td><td>20%</td></tr><tr><td>Assignment 2 (Group)</td><td>15%</td></tr><tr><td>Final Exam (Summative + paper)</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Main:
Kasdin Sihotang, (2018), Berpikir Kritis: Kecakapan Hidup di Era Digital (2018)l, Yogyakarta: Kanisius.
Addtional:
Alec Fisher, Berpikir Kritis: Sebuah Pengantar (2008), Jakarta: Penerbit Erlangga.
Benyamin Molan (2012), Logika: Ilmu dan Seni Berpikir Kritis, Jakarta: Penerbit Indeks
Saifur Rohman, (2021), Berpikir Kritis: Kaidah Penalaran untuk Hidup Benar dan Selamat, Jakarta: Alfabet</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Citizenship</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>Even/Odd semester</td></tr>
<tr><td>Person responsible for the course</td><td>Rakhdiny Sustaningrum</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: WAR130</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Participants are able to understand gaps and compile problems (KU1, KU3, KK3, P3)</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
Entrepreneurship courses include the study of the application of the concept of entrepreneurship to food products. The material includes an understanding of the concept of entrepreneurship, food product innovation based on consumer needs, food production processes, marketing management, human resources, simple finance, and business strategies in the context of a sustainable food industry</td></tr>
<tr><td>Examination forms</td><td>☐ Written test
☐ Oral test
✓ Performance test (practical)
✓ Assignments (papers, projects, portofolios, products)</td></tr>
</table>

<table>
<tr>
<td>Study and examination requirements</td>
<td>Rating Weight:

<table>
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<tr><td>Assignment/Quiz 1</td><td>20%</td></tr>
<tr><td>Assignment/Quiz 2</td><td>30%</td></tr>
<tr><td>Final Exam</td><td>30%</td></tr>
<tr><td>Total</td><td>100%</td></tr>
</table>
</td>
</tr>
<tr>
<td>Reading list</td>
<td>Bernardi, P.D., Azucar, D., 2020. Innovation in Food Ecosystem: Entrepreneurship for a sustainable future. Springer.
Scarborough, N.M, Cornwall, Jeffrey R., 2019., Essentials of Entrepreneurship and Small Business Management. Pearson.
Pride, W.M., Hughes, R.J.,Kapoor, J.R., 2018. Foundation of Business. Cengage.
Stafford, B.N., 1991. From Kitchen to Consumer: The Entrepreneur’s Guide to Commercial Food Production. Academic Press, Inc.
Diderich, C., 2019. Design Thinking for Strategy Innovating Towards Competitive Advantage. Springer
Osterwalder, A., Pigneur, Y., 2014., Value Proposition Design. Wiley.</td>
</tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Molecular Aspects of Life</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>3rd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Jimmy Suryadi, Ph.D.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>3 * 170 min</td><td>16</td><td>136 hour</td></tr>
</table>
*Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (3-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 225</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students will be able to explain concepts related to central dogma (S11, KU9, KK4, P3)
2. Students will be able to explain the role of plasmids in genetic engineering (S11, KU9, KK4, P5)
3. Students will be able to explain the principles of gene regulation in bacteria (S11, KU9, KK4, P3)
4. Students will be able to compare the transcription and translation processes in prokaryotes and eukaryotes (S11, KU9, KK4, P3)
5. Students will be able to determine the relationship between molecular biology and food biotechnology (S11, KU9, KK4, P3, P5)</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
Molecular biology is a branch of biological science that refers to the study of biology at the molecular scale. This course discusses life processes at the molecular scale; The processes discussed include replication, transcription, translation, mutations in DNA and genetic engineering and their implications for living things.</td></tr>
</table>

<table>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>30%</td></tr><tr><td>Reflection Video</td><td>30%</td></tr><tr><td>Quiz</td><td>10%</td></tr><tr><td>Final Exam</td><td>30%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Watson JD, et al. 2014. Molecular Biology of the Gene. Ed ke-7. New Jersey: Pearson.</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Food Technology Data Processing</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>3rd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Dr. Ir. Rory A Hutagalung, DEA</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture,Practice</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
<tr><td>Practice</td><td>1 * 170 min</td><td>16</td><td>45,3 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (2-1)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 227</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Able to tabulate and analyze data using descriptive statistical techniques and formulas and be able to apply descriptive statistical formulas according to their problems (S2, S8, S11, KU1, KK1, P2, P7, and P11).
2. Able to explain the role of chance in inferential statistics and be able to analyze data using opportunity theory and opportunity distribution. Able to explain the role of sampling in inferential statistics and able to analyze data using sampling theory and sample distribution (S9, KU1, KK1, P2, and P11).
3. Able to select and apply statistical formulas according to the data and problems to estimate parameters or analyze sample data in order to test hypotheses and be able to interpret the results of analysis (output) to draw conclusions (S9, KU1, KU2, KU4, KK1, KK7, P2, P7, and P11),</td></tr>
</table>

<table>
<tr><td>Content</td><td><u>Course Description:</u>
Food technology data processing is knowledge about the collection, classification, presentation, and processing of food technology data in order to describe the data, draw conclusions, and make decisions based on the data using scientifically accountable reasons. In this course, data and data characteristics will be discussed, data processing with descriptive statistics, the basics of inferential statistics (opportunities and their distribution and sampling along with samples), sample data processing for parameter estimation and hypothesis testing (descriptive hypothesis, hypothesis comparative and associative hypothesis) both parametric and non-parametric. In addition, the data processing process is also assisted by using statistical software.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:<table><tr><td>Midterm</td><td>25%</td></tr><tr><td>Assignment/Quiz 1</td><td>25%</td></tr><tr><td>Assignment/Quiz 2</td><td>25%</td></tr><tr><td>Final Exam</td><td>25%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Lind DA, Marchal WG, Wathen SA. 2014. Statistical Techniques in Business & Economics. 16th edition. McGraw-Hill International. 830 pp.
Budiarto, E. 2002. Biostatistika untuk Kedokteran dan Kesehatan Masyarakat. Penerbit Buku Kedokteran EGC. Jakarta
Sudjana. 1992. Metoda Statistika. Tarsito. Bandung.
Sugiyono, 2005. Statistika untuk Penelitian. Cetakan kedelapan. C V Alfabeta, Bandung
Walpole, R. E. 1982. Pengantar Statistika. Gramedia Pustaka Utama, Jakarta</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Microbiology</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>3rd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Stella Magdalena, M.Si.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>3 * 170 min</td><td>16</td><td>136 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (3-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 217</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Able to explain and understand the basic structure and function of prokaryotes
2. Able to explain and understand the growth, control of microbial growth and the mechanism of action of antibiotics against microbes
3. Able to explain and understand metabolism, microbial genetics
4. Able to explain and compare diversity in prokaryotes, eukaryotes, and viruses
5. Able to explain the mechanism of immunity</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
This course provides a foundation for microbial life and its role. The description includes the development of microbiology, basic structure and function, growth and growth control, metabolism, microbial genetics, antibiotics, prokaryotes, eukaryotes and viruses, virulence and pathogenicity factors, and immunology principles.</td></tr>
</table>

<table>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:<table><tr><td>Midterm</td><td>35%</td></tr><tr><td>Assignment (Article Review)</td><td>30%</td></tr><tr><td>Final Exam</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Madigan MT, Bender KS, Buckley DH, Satley WM, Stahl. DA. 2022. Brock Biology of
Microorganism 16th Ed. Pearson. Global Edition.
Black JG, Black LJ. 2015. Microbiology: Principles and Explorations. 9th Ed. John Wiley & Sons, Inc.</td></tr>
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<table>
<tr><td>Course designation</td><td><u>Microbiology Laboratory</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>3rd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Stella Magdalena, M.Si.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture, Practicum</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>1 * 170 min</td><td>16</td><td>45,3 hour</td></tr>
<tr><td>Practicum</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (1-2)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 219</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to do basic microbiology techniques
2. Students are able to calculate and isolate the presence of microbes
3. Students are able to characterize microbes based on metabolism and microscopy structure
4. Students are able to test the antimicrobial power</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
This course discusses basic microbiology techniques, such as macroscopic and microscopic observation of microbes, microbial sterilization and inoculation techniques, microbial identification techniques through biochemical and staining tests, and antimicrobial power tests.</td></tr>
</table>

<table>
<tr><td>Examination forms</td><td>
<table>
<tr><td>✓</td><td>Written test</td></tr>
<tr><td></td><td>Oral test</td></tr>
<tr><td>✓</td><td>Performance test (practical)</td></tr>
<tr><td>✓</td><td>Assignments (papers, projects, portofolios, products)</td></tr>
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<tr><td>Study and examination requirements</td><td>Rating Weight:
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<tr><td>Midterm</td><td>30%</td></tr>
<tr><td>Assignment/Quiz 1</td><td>10%</td></tr>
<tr><td>Assignment/Quiz 1</td><td>20%</td></tr>
<tr><td>Final Exam</td><td>40%</td></tr>
<tr><td>Total</td><td>100%</td></tr>
</table>
</td></tr>
<tr><td>Reading list</td><td>Benson, H.J. 2002. Microbiological Applications: Laboratory Manual in General Microbiology. 8th Edition. New York: McGraw-Hill
Cappucino, J.G., N. Sherman. 2005. Microbiology: A Laboratory Manual. 7th Edition. San Francisco: Pearson Benyamin Cummings.</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Food Chemistry</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>3rd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Diana Lestari, S.Gz., M.Si.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>3 * 170 min</td><td>16</td><td>136 hour</td></tr>
</table>
*Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (3-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 221</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are expected to be able to understand the components and chemical structure of food
2. Students are expected to be able to understand the impact of processing on changes in the physico-chemical properties of food and its functional properties
3. Students are expected to be able to understand the influence of biotechnology on the availability and quality of foodstuffs.
4. Students are expected to be able to analyze chemical principles in food and what changes occur during food processing.</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
The Food Chemistry course will provide knowledge of chemical principles and
functional characteristics in food components. These components
Includes: Macro components (water, fat, carbohydrates, proteins and enzymes), micro components</td></tr>
</table>

<table>
<tr><td></td><td>(vitamins, minerals, phenolics, food colors, flavors, additives/BTP), as well as food systems
in the food itself (the interaction of physical and chemical components in the food system, and
the influence of biotechnology on food availability and quality). In addition to studying with
lecture method, students are also given group assignments related to food chemistry which
will be presented, both orally and in writing at the end of the lecture.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>35%</td></tr><tr><td>Assignment</td><td>30%</td></tr><tr><td>Final Exam</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Fennema OR. 2008. Fennema’s Food Chemistry, 4th Edition. Boca Raton: CRC Press, Taylor & Francis Group.
Kusnandar F.2010. Kimia Pangan Komponen Makro. Jakarta: Dian Rakyat.
Winarno FG. 2004. Kimia Pangan dan Gizi. Jakarta: Gramedia Pustaka Utama</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Nutrition Science</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>3rd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Diana Lestari, S.Gz., M.Si.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>3 * 170 min</td><td>16</td><td>136 hour</td></tr>
</table>
*Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (3-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 223</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students can explain macro and micronutrients related to their sources and metabolism
2. Students are able to compare nutritional needs at every stage of life ranging from pregnant women, breastfeeding mothers, infants, toddlers, children, adolescents, adults, and the elderly
3. Students can assess nutritional status and understand general guidelines for balanced nutrition
4. Students can plan a menu by understanding the concept of energy balance
5. Students are able to identify problems / diseases related to nutrition
6. Students are able to elaborate on nutrition problems in Indonesia and formulate appropriate treatment</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
Nutrition science discusses the meaning and terms related to nutrition, macronutrients and
micro, digestion and metabolism of nutrients, adequacy and nutritional needs, planning</td></tr>
</table>

<table>
<tr><td></td><td>consumption and assessment of nutritional status, nutrition in the life cycle, and the latest issues related to
nutrition in the community.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>35%</td></tr><tr><td>Assignment/Quiz 1</td><td>15%</td></tr><tr><td>Presentation</td><td>15%</td></tr><tr><td>Final Exam</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Gibney MJ, Lanham-New SA, Cassidy A, Vorster HH. 2009. Introduction to human nutrition. Ed ke-2. Chichester (UK): John Wiley & Sons.
Insel P, Ross D, McMahon K, Bernstein M. 2017. Nutrition. Ed ke-6. Burlington (US): Jones & Bartlett Learning.
Berdanier CD, Dwyer JT, Heber D. 2014. Handbook of nutrition and food. Ed ke-3. Boca Raton (US): Taylor & Francis.
Lloyd LE, McDonald BE, Crampton EW. 1978. Fundamentals of nutrition. Ed ke-2. San Francisco (US): W.H. Freeman and Company.
Whitney E, Rolfes SR. 2016. Understanding nutrition. Ed ke-14. Stamford (US):Cengage Leraning</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Catholicism / Religion Education</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>Odd/Even Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Harum Hendrikus, Drs.,MM and Ignasius Joko Suyanto, Drs.,M.Hum</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: AGA 110 / UAJ 150</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain the church's views on people, religion, Jesus Christ and the church
2. Students are able to explain the Catholic church's views on religious plurality and the importance of religious dialogue
3. Students are able to design assignments to realize the core values of KUPP
4. Students are able to report the results of observation both orally through group presentations and in writing and are able to reflect on the main values found in the observation process</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
This course is intended to provide a basic basis of knowledge derived from the official teachings of the Catholic church on: Man; Human beings as religious beings; Religious Man, Religious Plurality and Religious Dialogue and Jesus Christ His Work and Teachings as well as about the Church and the Duties of the Church. Through this lecture process, it is hoped that students can live their faith according to the pattern of Jesus Christ and be responsible and implement it in life in line with</td></tr>
</table>

<table>
<tr><td></td><td>the Atma Jaya Unika Core Values listed in the Atma Jaya Foundation Memorandum on the Development of Core Values: Christian, Superior, Professional, Caring.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☑ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm (Summative + project)</td><td>30%</td></tr><tr><td>Assignment 1 (Individual)</td><td>15%</td></tr><tr><td>Assignment 2 (Group)</td><td>25%</td></tr><tr><td>Final Exam (Summative + paper)</td><td>30%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Catholicism
Atma Jaya Jakarta Foundation, 2015 Nota Yayasan Atma Jaya tentang Pengembangan Nilai Inti: Kristiani, Unggul,Profesional, Peduli.
Indonesian Bishops Conference, Department of Documentation and information
1992 Paus Yohanes Paulus II. Konstitusi Apostolik tentang Universitas Katolik. Jakarta : Dokpen KWI
1993 Dokumen Konsili Vatikan II. Jakarata: Dokpen KWI
2009 Ensiklik Bapa Suci Paus Yohanes Paulus II. Iman dan Akal Budi. Jakarta : Dokpen KWI
2014 Ensiklik Bapa Suci Paus Fransiskus mengenai Iman. Cahaya Iman. Jakarta : Dokpen KWI
Religion Education:
Suyanto, Joko, dkk. 2016. Agama dan Moral. Bekasi: Bintang Kejora.
Tarigan, J., Kama, VF., Hardijantan, B.D., Akal Budi & Iman. Jakarta: Atma Jaya University Press, 2014.
Atma Jaya Jakarta Foundation, 2015 Nota Yayasan Atma Jaya tentang Pengembangan Nilai Inti: Kristiani, Unggul,Profesional, Peduli.</td></tr>
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<table>
<tr><td>Course designation</td><td><u>Food Process Engineering</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>4th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Rianita Pramitasari, S.T.P, M.Sc.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture, Practicum</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>3 * 170 min</td><td>16</td><td>136 hour</td></tr>
<tr><td>Practicum</td><td>1 * 170 min</td><td>16</td><td>45,3 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 4 (3-1)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 232</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain engineering principles and their use to solve problems faced in food processing (KU1, KK3, KK4, P2)
2. Students are able to explain heat transfer, mass, and momentum in designing food production processes (KU1, KK3, P2)
3. Students are able to solve mathematical equations, draw and read graphs to design equipment and processes in food processing and distribution (A9, KU1, KU2, KK4, P2)
4. Students are able to explain the latest topics and innovations in food process engineering (KU1, KK3, KK4, P2)
5. Students are able to apply the principles of food engineering and the use of numerical approaches in practice in the laboratory (A6, A9, KU1, KU3, KU7, KU8, KK3, KK4, P2)</td></tr>
<tr><td>Content</td><td><u>Course Description:</u></td></tr>
</table>

<table>
<tr><td></td><td>This course discusses engineering principles and their use to solve problems faced in food processing; heat transfer, mass, and momentum in designing food production processes; and the use of numerical approaches and their practices in the laboratory to design equipment and processes in food processing and distribution. The latest topics and innovations in food process engineering were also given.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:<table><tr><td>Midterm</td><td>30%</td></tr><tr><td>Assignment 1/counting task</td><td>15%</td></tr><tr><td>Assignment 2/practicum</td><td>25%</td></tr><tr><td>Final Exam</td><td>30%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Singh RP & Heldman DR. 2014. Introduction to Food Engineering 5thedition. Academic Press.
Ohlson T & Bengtsson N. 2002. Minimal Processing Technologies in Food Industry. Woodhead Publishing Limited & CRC Press.
Siddiqui MW & Rahman MS. 2015. Minimally Processed Foods. Springer.
Sun Da-Wen. 2014. Emerging Technologies for Food Processing 2nd edition. Elsevier, USA.
Natasya, J.A., Pramitasari, R., Anugrah, D.S.B. Microwave-Assisted Extraction and Physicochemical Characterization of Chitosan from Black Soldier Fly Exuviae. Disampaikan pada 17th ASEAN Food Conference, 24-27 Oktober 2023
di Kuching, Malaysia.
food engineering rpaulsingh
R. Paul Singh - YouTube</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Functional and Nutracetic Food</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>4th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Yanti</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>3 * 170 min</td><td>16</td><td>136 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (3-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 214</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to master the theoretical concepts of current functional foods and nutraceuticals
2. Students are able to understand the regulatory aspects and health claims of functional foods and nutraceuticals in various countries, including Indonesia
3. Students are able to understand, explain, and provide interpretations of the application of functional foods and nutraceuticals in the prevention/prevention of various diseases related to cardiovascular, immune function, bone health, tumors, cognitive function, and gastritis in various case studies.
4. Students are able to understand and interpret the working mechanisms of various functional food ingredients.
5. Students are able to understand and. design product development and formulation of functional food ingredients.</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
In this course, students will be introduced to the concept of functional food and nutraceuticals, various regulations and health</td></tr>
</table>

<table>
<tr><td></td><td>claims related to functional food and nutraceuticals globally, including in Indonesia. Students will also be explained about the understanding of the application of functional food and nutraceuticals in the prevention of various diseases related to cardiovascular, immune function, bone health, tumors, cognitive function, and gastritis through a number of case studies from paper results. Students will also learn to understand the working mechanisms of a number of functional food ingredients. Students will also be taught about how to design product development and formulation of functional food ingredients.</td></tr>
<tr><td>Examination forms</td><td>✓ Written test
✓ Oral test
☐ Performance test (practical)
✓ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:<table><tr><td>Midterm</td><td>25%</td></tr><tr><td>Assignment/Quiz 1</td><td>25%</td></tr><tr><td>Assignment/Quiz 2</td><td>25%</td></tr><tr><td>Final Exam</td><td>25%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Saarela M. 2016. Functional Foods, 2nd Edition: Concept to Product. England: Woodhead Publishing.
Dilip Ghosh D, Bagchi D, Konishi K. 2014. Clinical Aspects of Functional Foods and Nutraceuticals. London: CRC Press.</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Food Microbiology</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>4th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Prof. Dr. Diana E Waturangi</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture, Practicum</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
<tr><td>Practicum</td><td>1 * 170 min</td><td>16</td><td>45,3 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (2-1)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 216</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Explaining the various microbes of contaminants in food
2. Explain the various microbes that play a role in the food production process
3. Explain some of the dominant microbes of food contaminants both in terms of pathogenicity and prevention</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
This course discusses food-related microbes both as contaminants and microbial applications in the food production process. Some of the dominant microbes as food contaminants will be discussed in more depth from aspects, pathogenicity, virulence mechanisms, prevention and handling of infections by these microbes</td></tr>
</table>

<table>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☑ Performance test (practical)
☐ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:<table><tr><td>Midterm</td><td>35%</td></tr><tr><td>Assignment/Quiz 1</td><td>30%</td></tr><tr><td>Final Exam</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Jay, James M., Loessner, Martin J., Golden, 2005. David A. Modern Food Microbiology, Springer.
Waturangi 2023. Bakteri Pembentuk Biofilm: Ancaman Bagi Kemanan Pangan</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Food Nanotechnology</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>4th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Daru Seto Bagus Anugrah, M.Eng.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 234</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to understand the basic concepts of nanotechnology (S9, KU1, KU3, KK1, PP3)
2. Students are able to evaluate the development of nanotechnology products in the field of food technology (S9, KU3, KK2, PP3)</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
This course discusses knowledge about the basics of nano-technology and its application in the food sector, especially in the addition of nutrients, packaging, biosensors and food safety.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☑ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
</table>

<table>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>25%</td></tr><tr><td>Assignment 1/writing summary</td><td>25%</td></tr><tr><td>Assignment 2/oral presentation</td><td>25%</td></tr><tr><td>Final Exam</td><td>25%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Ratner, M. A., & Ratner, D. 2003. Nanotechnology: A gentle introduction to the next big idea. Prentice Hall Professional.
Aswathanarayan, J. B., & Vittal, R. R. 2019. Nanoemulsions and their potential applications in food industry. Frontiers in Sustainable Food Systems, 3, 95.
Anugrah, et al, 2023, “Utilising N-glutaryl chitosan-based film with butterfly pea flower anthocyanin as a freshness indicator of chicken breast”, Packaging Technology
and Science, Wiley
Anugrah, et al, 2023, “Development of alginate-based film incorporated with anthocyanins of red cabbage and zinc oxide nanoparticles as freshness indicator for prawns”, International Journal of Biological Macromolecules, Elsevier</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Industrial Management</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>4th semester</td></tr>
<tr><td>Person responsible for the course</td><td>Dr. V. Rachmadi Parmono, STP, MM</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 226</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to understand, analyze, evaluate, and build business operations</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
This course covers the introduction, development and implementation of operations management in the food industry. Students will have knowledge about operational factors that can play a role in the food industry process unit. After attending this lecture, students are expected to have an overview of operational aspects in the food industry</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
</table>

<table>
<tr><td>Study and examination requirements</td><td>Rating Weight:

<table><tr><td>Midterm</td><td>30%</td></tr><tr><td>Assignment/Quiz 1</td><td>15%</td></tr><tr><td>Assignment/Quiz 2</td><td>15%</td></tr><tr><td>Final Exam</td><td>40%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Barlow, John F., 2005, Excel Models for Business and Operations Management, 2nd edition, Sussex, England: John Wiley and Sons
Cramer, Michael M., 2013, Food Plant Sanitation: Design, Maintenance and Good Manufacturing Practices, 2nd Edition, Boca Raton: CRC Press
Heizer, J. & Render, B. Munson, C., 2017. Principles of Operation Management: Sustainability and Supply Chain Management, 10th Edition, NY: Pearson
Heizer, J. & Render, B. Munson, C., 2020. Operation Management: Sustainability and Supply Chain Management, 13th Edition, NY: Pearson
Leadly, C. E.(eds). 2016, Innovation and Future Trends in Food manufacturing and Supply Chain Technologies, Cambridge: Woodhead Publishing.
Mortimore, Sara & Carol Wallace, 2012. HACCP: A Practical Approach, 3rdEdition, Minessota: Springer
Onetti, Alberto & Zucchella, Antonella, 2014., Business Modeling for Life Science and Biotech Companies: Creating Value and Competitive Advantage with The Milestone Bridge, NY: Routledge</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Food Processing Technology</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>4th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Diana Lestari</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture, practicum</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
<tr><td>Practicum</td><td>1 * 170 min</td><td>16</td><td>45,3 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (2-1)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 228</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are expected to be able to understand the components and chemical structure of food constituents
2. Students are expected to be able to understand the impact of processing on changes in the physico-chemical properties of food and its functional properties
3. Students are expected to be able to understand the influence of biotechnology on the availability and quality of foodstuffs.
4. Students are expected to be able to analyze chemical principles in food and what changes occur during food processing.</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
This Food Technology course will provide comprehensive knowledge to students about the main foundations of food technology, which includes an introduction to the properties of physics, chemistry, food microbiology, food quality assessment, processing technology, preservation, and packaging of food products. The approach to this course is carried out in two</td></tr>
</table>

<table>
<tr><td></td><td>directions, namely through lectures and practicums, which require students to carry out self-learning through a package of small food industry development tasks that have been determined by lecturers. The package requires students in groups of 5-6 people to be able to study independently to obtain the necessary data, such as how to produce, package, and label and market it. Thus they can practice the theory that has been obtained in class as their practicum material for the package. The independent assignment will be presented, both orally and in writing (in the form of posters and presentations), at the end of the practicum and there will be an exhibition of products that have been made by students in a food festival. Deep The implementation will guide all student groups with the help of Student Assistants.</td></tr>
<tr><td>Examination forms</td><td>✓ Written test
☐ Oral test
☐ Performance test (practical)
✓ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>25%</td></tr><tr><td>Assignment/Practicum</td><td>40%</td></tr><tr><td>Assignment/Quiz 1</td><td>10%</td></tr><tr><td>Final Exam</td><td>25%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Vaclavik VA, Christian EW. 2014. Essentials of Food Science. Springer.
Richard W. Hartel, Joachim H. von Elbe and Randy Hofberger Confectionery Science and Technology.springer</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Nutrigenomics</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>4th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Dionysius Subali, M.Biotek.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 311</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain the definitions of nutrition, nutrigenomics and nutrigenetics and provide examples
2. Students are able to explain the components of macronutrients and micronutrients and their role in health and connect macronutrient metabolism from digestion to excretion
3. Students are able to relate the role of nutrition and lifestyle to the control of genetic function (epigenetics)
4. Students are able to relate the role of nutrigenomics to health and disease prevention, such as inflammation, tumors/cancer, athlete fitness, ideal body weight management, metabolic syndrome diseases, mental health, and aging
5. Students are able to explain analysis and instrumentation techniques in nutrigenomics case studies
6. Students are able to create nutrigenomics application schemes in the digital industry era 4.0</td></tr>
</table>

<table>
<tr><td>Content</td><td><u>Course Description:</u>
Nutrition in food is one of the important factors that affect human health. Several studies in the field of biotechnology have proven that the food consumed by humans affects the expression of certain genes. Nutrigenomics is a discipline that studies the influence of nutrition on gene expression. This course will provide knowledge about the concept of nutrigenomics, the influence of nutrition and lifestyle on genomic health, and examples of its application in various aspects of human life.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>25%</td></tr><tr><td>Assignment/Quiz 1</td><td>15%</td></tr><tr><td>Assignment/Quiz 2</td><td>30%</td></tr><tr><td>Final Exam</td><td>30%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Main :
Kaput J, Rodriguez RL. 2006. Nutritional Genomics: Discovering the Path to Personalized Nutrition.
McGuire M, Beerman KA. 2007. Nutritional Sciences: From Fundamentals to Food.
Wardlaw et al. 2004. Perspectives in Nutrition.
Additional :
Nutrigenomics Journal</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Scientific Writing and Presentation</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>5th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Daru Seto Bagus Anugrah, S.Si., M.Eng.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture, Practice</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
<tr><td>Practice</td><td>1 * 170 min</td><td>16</td><td>45,3 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (2-1)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 329</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to communicate the basics of writing scientific papers (S8, KU1, KU7, KU9, KK1, P2) – CPL C
2. Students are able to communicate a scientific paper (S8, KU1, KU7, P2) – CPL C
3. Students are able to communicate oral presentations (S8, KU1, KU7, KU9, P2) – CPL C
4. Students are able to communicate intellectual property rights (S8, KU1, KU9, P2) – CPL C</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
This course discusses the anatomy and ethics of work scientific writing, oral presentation of written works, and intellectual property rights.</td></tr>
</table>

<table>
<tr><td>Examination forms</td><td>✓ Written test
✓ Oral test
✓ Performance test (practical)
✓ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:<table><tr><td>Midterm</td><td>10%</td></tr><tr><td>Assignment (Article Review)</td><td>20%</td></tr><tr><td>Assignment (Scientific Paper PKM)</td><td>40%</td></tr><tr><td>Assignment (Oral Presentation)</td><td>20%</td></tr><tr><td>Final Exam</td><td>10%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Diao AL, Gunawan AW, Aruan DA, Kusuma S, Adriyanto S. 2014. Literasi Informasi: 7 Langkah Knowledge Management. Jakarta (ID): Universitas Atma Jaya Pr.
Pedoman Program Kreativitas Mahasiswa, Ed. 2020.
Informasi dari Direktorat Jenderal Hak Kekayaan Intelektual, Kementrian Hukum dan Hak Asasi Manusia Republik Indonesia.
Beberapa jurnal ilmiah yang relevan</td></tr>
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<table>
<tr><td>Course designation</td><td><u>Food Packaging and Storage Technology</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>5th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Meda Canti, S.T.P., M.Sc.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 325</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to contribute to improving the quality of life in society by applying science and technology in packaging and storage of food products, starting from designing good food product packaging in order to protect and maintain product durability and quality, as well as safe, with informative labels for consumers in accordance with food regulations and laws (S3, KU1, KU3, KU8, KK5)
2. Students are able to internalize the core values developed by Atma Jaya, namely Christianity, Excellence, Professionalism, Care by showing independent, quality, and measurable performance in the implementation of food packaging and storage technology in accordance with the characteristics of food ingredients (S11, KU2, P2)</td></tr>
</table>

<table>
<tr><td>Content</td><td><u>Course Description:</u>
Food Packaging and Storage Technology is a mandatory course to provide insight and knowledge about packaging and storage of food products, including packaging materials, the influence of packaging material types on the shelf life of food products, packaging and storage technology of food products.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>25%</td></tr><tr><td>Assignment/Quiz 1</td><td>25%</td></tr><tr><td>Assignment/Quiz 2</td><td>20%</td></tr><tr><td>Final Exam</td><td>30%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Ahvenainen, R. ed., 2003. Novel food packaging techniques. Elsevier.
Coles R, McDowell D, Kirwan MJ. 2003. Food Packaging Technology. CRC.
Blanchfield JR (ed). 2000. Food Labelling. Cambridge: CRC.
Robertson, G.L., 2016. Food packaging: principles and practice. CRC press.</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Food Sensory Evaluation</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>5th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Rianita Pramitasari, S.T.P, M.Sc</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture, Practicum</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
<tr><td>Practicum</td><td>1 * 170 min</td><td>16</td><td>45,3 hour</td></tr>
</table>
*Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (2-1)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 317</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain the basic principles and concepts of sensory evaluation (KU1, KU3, KU5, KK1, P1, P2, P7)
2. Students are able to explain various sensory evaluation methods and apply them in the food sector (S9, KU3, KU5, KU8, KK1, KK4, P1, P2)
3. Students are able to explain the application of sensory evaluation in the food industry (KU3, KK1, KK4, P2)
4. Students are able to organize sensory evaluation activities in the laboratory, analyze data, and communicate the results both orally and in writing (S6, S9, KU1, KU2, KU3, KU5, KU7, KU8, KK1, KK4, P2)</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
In this course, students learn about sensory attributes and how to assess them using human senses, control of means in sensory testing, sensory evaluation methods, the influence of psychological and physiological factors, and the measurement of</td></tr>
</table>

<table>
<tr><td></td><td>responses in sensory testing. The application of sensory evaluation in the food industry is also studied. This course has a practicum to train students in conducting sensory evaluations (as preparers and panelists), processing data statistically, and communicating the results both orally and in writing.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>30%</td></tr><tr><td>Assignment/Quiz 1</td><td>30%</td></tr><tr><td>Assignment 2/ Social Media Content</td><td>10%</td></tr><tr><td>Final Exam</td><td>30%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Main :
• Meilgaard, M. C., Civille, G. V. & Carr, B. T. (2016). Sensory Evaluation Techniques. 5th edition. USA: CRC Press.
Pendukung :
• Amerine, M. A., Pangborn, R. M. & Roessler, E. B. (1982). Principles of Sensory Evaluation of Food. New York: Academic Press.
• Asiah, N., Cempaka, L. & David, W. (2018). Panduan Praktis Pendugaan Umur Simpan Produk Pangan. Jakarta: UB Press.
• Bourne, M. C. (1982). Food texture and viscosity. Concept and Measurement. New York: Academic Press.
• David, W. & Djamaris A. R. A. (2018). Metode Statistik untuk Ilmu dan Teknologi Pangan. Jakarta: UB Press.
• Lawless, H. T. & Heyman, H. (2010). Sensory Evaluation of Food: Principles and Practices. 2nd edition. New York: Springer.
• MacDougall, D. B. (2002). Colour in Food: Improving quality. USA: CRC Press.
• Moskowitz, H. R., Beckley, J. H. & Resurreccion, A. V. A. (2012). Sensory and Consumer Research in Food Product Design and Development. 2nd edition. USA: IFT Press.
• Munoz, A. M., Civille, G. V. & Carr, B. T. (1992). Sensory Evaluation in Quality Control. USA: Springer Science.</td></tr>
</table>

	• ISO 8586. Sensory analysis-General guidelines for the selection, training and monitoring of selected assessors and expert sensory assessors • Journal about food sensory (Food Quality & Preference, Journal of Sensory Studies, Chemical Senses, Journal of Texture Studies, Journal of Food Science, dll.).

<table>
<tr><td>Course designation</td><td><u>Fermentation Technology</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>5th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Stephanie, M.Sc.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture, practicum</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>3 * 170 min</td><td>16</td><td>136 hour</td></tr>
<tr><td>Practicum</td><td>1 * 170 min</td><td>16</td><td>45,3 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 4 (3-1)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 319</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to differentiate types of fermentation and calculate the kinetic parameters of each fermentation type
2. Students are able to analyze and create the outline for fermentation optimization through intrinsic and extrinsic factors
3. Students are able to design steps for optimization in production of various metabolites from microorganisms or laboratory-scale waste treatment</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
Fermentation technology has been applied conventionally to produce fermented food or feed. According to its development, fermentation technology is also applied to produce various types of primary and secondary metabolites. This course elaborates the history and development of fermentation, isolation of microbes and microbial enhancement, the basic principles and types of fermentation, kinetic calculations, and upstream and downstream</td></tr>
</table>

<table>
<tr><td></td><td>processes in a series of fermentation processes. Applications of the fermentation process in solid state fermentation products and submerged cultures are also presented in the form of discussions and experimental design papers. This course consists of 2 credits of lectures and supported by 1 credit of practicum activities that will be adjusted to the lecture topic for one semester.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☑ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>35%</td></tr><tr><td>Practicum</td><td>20%</td></tr><tr><td>Assignment 1</td><td>10%</td></tr><tr><td>Final Exam</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Bailey EB, Ollis DF. 1986. Biochemical engineering fundamentals. Second edition. Singapore: McGraw-Hill book company.
Crueger W, Crueger A. 1982. Biotechnology: A Textbook of Industrial Microbiology. Madison: Science Tech.
Demain AL, Solomon NA. 1986. Manual of Industrial Microbiology and Biotechnology. Washington DC: American Society for Microbiology.
Doran PM. 2004. Bioprocess engineering principles, London: Elsevier.
Scragg A. 1988. Biotechnology for Engineers: Biological Systems in Technological Processes. New York: Ellen Horwood Limited.
Shuler ML, Kargi F. 1992. Bioprocess Engineering Basic Concepts. New Jersey: PrenticeHall.
Stanbury PF, Whitaker A. 1984. Fermentation of Technology. New York: Pergamon Press.</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Enzyme Biotechnology</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>5th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Prof. Maggy T. Suhartono</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>3 * 170 min</td><td>16</td><td>136 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (3-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 321</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to understand the basic characteristics of enzyme
2. Students are able to indicate various source of enzymes and their productions
3. Students are able to indicate various enzyme fermentations and the influencing factors for enzyme production from microbes
4. Students are able to understand the analysis, extraction, and purification of enzymes
5. Students are able to indicate the application of enzymes in industrial, agricultural, food, medical, environmental, and molecular research
6. Students are able to understand enzyme inhibitors and their medical applications
7. Students are able to understand various modern techniques for production and analysis of enzyme
8. Students are able to comprehend enzymes that are currently renowned</td></tr>
</table>

<table>
<tr><td>Content</td><td><u>Course Description:</u>
This course provides an understanding of various aspects of enzymes, from the characters of enzyme structure, sources, characteristics, extraction techniques, isolation and purification of enzymes, to applications of enzyme in industry, agriculture, environment, health, food, and molecular research. The topic of enzyme inhibitors will be discussed in relation to their application in the health sector. The discussion continues with case studies of several enzymes. This course consists of 3 credits of lectures.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>40%</td></tr><tr><td>Assignment/Quiz 1</td><td>20%</td></tr><tr><td>Final Exam</td><td>40%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Palmer T. 1991. Understanding Enzymes. 3rd ed. New Yark: Ellis Horwood.
Kennedy JF. 1987. Enzyme Technology in Biotechnology Volume 7a. (Rehm HJ, and Reed G eds). Germany: VCH Weinheim.
Glick BR, Pasternak JR. 1994. Molecular Biotechnology. American Society for Microbiology</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Food Ingredients</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>5th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Meda Canti, S.T.P., M.Sc.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 323</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain the types of food ingredients, their benefits, and provide examples and applications. (KU1, KU2, KU3, PP1, PP2).
2. Students were able to explain the production principles of several food ingredients produced through microbes, give examples and applications. (KU1, KU2, KU3, PP1, PP2)
3. Students are trained to be creative and independent in thinking through group assignments and are expected to know the interaction of food ingredients in the processing of food products and know the innovation of sustainable food ingredients. (S5, S9, S10, KU5, KU6, KU7, KU8, KK1, KK2, KK3, KK4).</td></tr>
</table>

<table>
<tr><td>Content</td><td><u>Course Description:</u>
This course contains subjects about various variations of food ingredients and their uses, both useful for maintaining safety and freshness, improving taste and appearance as well as food ingredients that are useful for
improve nutrition and other health benefits. In this course, students will be introduced to the principles of food production using microbes, with a biotechnology approach. Students were also introduced to the interaction of food ingredients in food products and other sources of sustainable food ingredients.
This course requires students to carry out self-learning through group assignments presentations and making papers/papers on food ingredient production technology from microbes and the interaction of food ingredients in food and beverage products. Thus, it can train students in increasing knowledge and insight into production technology and food industry interactions that can affect the characteristics in food products</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>35%</td></tr><tr><td>Assignment/Quiz 1</td><td>30%</td></tr><tr><td>Final Exam</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Corredig, M. 2009. Dairy-Derived Ingredients Food and Nutraceutical Uses. Washington, DC. CRC Press.
Dossey, A. T., Morales-Ramos, J. A. and Rojas, N. G. 2016. Insect as Sustainable Food Ingredients : Production, Processing and Food Applications. London, UK. Academic Press.
Farnworth, E. 2003. Fermented Functional Foods. Washington, DC. CRC Press.
Gaonkar, A. G. and McPherson, A. 2006. Ingredient Interactions Effects on Food Quality. London, New York. CRC Press.
Holban, A. M. and Grumezescu, A. M. 2017. Microbial Production of Food Ingredients and Additives. London, UK. Academic Press.</td></tr>
</table>

	McNeil, B., Archer, D., Giavasis, I. and Harvey. L. 2013. Microbial Production of Food Ingredients, Enzymes and Nutraceuticals. Cambridge, UK. Woodhead Publishing. Park, Y. W. 2009. Bioactive Components in Milk and Dairy Products. Iowa, USA. Wiley-Blackwell. Saarela, M. 2007. Functional Dairy Products. Washington, DC. CRC Press. Tarte, R. 2009. Ingredients in Meat Products : Properties, Functionality and Applications. New York, USA. Springer.

<table>
<tr><td>Course designation</td><td><u>Food Product Marketing</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>6th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Dr. Ari Setiyaningrum, SE., M.Si</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 328</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Able to understand and apply marketing concepts in the current decade.
2. Able to understand and apply the concept of marketing strategy to the organization and design a marketing plan.
3. Able to analyze the marketing environment, distinguish the business market and the consumer market, and distinguish purchasing behavior in the business market and the consumer market.
4. Able to understand and apply the concept of marketing strategy and determine segmentation, targeting, positioning (STP).
5. Able to understand the concept of the marketing mix and determine the marketing mix which includes product, price, place, promotion.
6. Able to understand and apply the concept of the product.
7. Able to understand and apply the concept of price.
8. Able to understand and apply the concept of place.</td></tr>
</table>

<table>
<tr><td></td><td>9. Able to understand and apply the concept of promotion</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
Marketing is needed by all organizations across all industry sectors including the food industry. Marketing can help connecting production activities carried out by the company as a product manufacturer and consumption activities carried out by consumers as parties consuming or using products. The right marketing strategy and marketing mix are needed so that food products can be sold. Therefore, students need to understand the basics of marketing and apply them so that they can be useful when working or starting their own business. This food product marketing course helps students understand the basics of understanding which includes introduction to marketing, understanding marketing strategies in organizations, determining marketing strategies (segmentation, targeting, positioning) for food products, building long-term relationships with customers, analyzing the business market and consumer market, determining the marketing mix (product, price, place, promotion) for food products, and designing marketing plans (marketing plan) food products.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>25%</td></tr><tr><td>Assignment/Quiz 1</td><td>25%</td></tr><tr><td>Assignment/Quiz 1</td><td>25%</td></tr><tr><td>Final Exam</td><td>25%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Kotler, Philip. & Armstrong, Garry. (2018). Principles of Marketing. 17th Edition. Harlow England: Pearson Education International.
Kotler, Philip & Keller, Kevin Lane. (2016). Marketing Management. 15th Edition. New Jersey: Pearson Global Edition.
Setiyaningrum, Ari, Udaya, Jusuf, & Efendi, Efendi. (2016). Prinsip-Prinsip Pemasaran Plus Tren Terkini Pemasaran Global,</td></tr>
</table>

	Pemasaran Jasa, Green Marketing, Entrepreneurial Marketing, E-Marketing. Yogyakarta: Penerbit Andi.

<table>
<tr><td>Course designation</td><td><u>Food Safety and Quality Management</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>6th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Meda Canti, S.T.P., M.Sc.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>3 * 170 min</td><td>16</td><td>136 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (3-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 320</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain food product safety issues, definitions, principles and benefits of quality management systems and provide examples of quality management system applications in the food industry (KU1, KU3, PP1, PP2).
2. Students are trained to be creative and independent in thinking through group assignments and are expected to know how to apply food safety systems and quality management in the entire food chain in the food industry (S5, S9, S10, KK1, KK3, KK4).</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
This Food Safety and Quality Management course will provide comprehensive knowledge to students about food product safety issues, definitions, principles and benefits of quality management systems as well as provide examples of quality management system applications in the food industry. In addition, this course also provides an understanding of ISO 9001:2015, namely Quality Management System, and ISO 22000:2018, namely Food Safety Management System-Requirements for Organizations in the Food</td></tr>
</table>

<table>
<tr><td></td><td>Chain, as well as ISO 31000:2018, namely Risk Assessment. Thus, it can train students to increase knowledge and insight into the application of food safety quality management systems and HACCP in the entire food chain in the food industry.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>35%</td></tr><tr><td>Assignment/Quiz 1</td><td>30%</td></tr><tr><td>Final Exam</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Anonim. 2018. ISO 22000:2018 Food Safety Management Systems Requirements for any Organization in The Food Chain. Switzerland.
Anonim. 2015. SNI ISO 9001:2015 Quality Management Systems. Badan Standardisasi Nasional. Jakarta.
Anonim. 2018. ISO 31000:2018 Risk Management, Principles and guidelines. Switzerland.
McElhatton, A. and Marshall, R. J. 2007. Food Safety : A Practical and Case Study Approach. Springer. London.
Mortimore, S. and Wallace, C. 2001. Food Industry Briefing Series : HACCP. Blackwell Science Ltd. USA.
Paster, T. 2007. The HACCP Food Safety Training Manual. John Wiley and Sons, Inc. Canada.</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Bioreactor Engineering</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>6th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Dr. Irvan Faizal, M. Eng</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>3 * 170 min</td><td>16</td><td>136 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (3-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 316</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to actively participate and understand bioreactor design techniques S9, S10, K1, K3, KK2, KK5, KK6, P1, P3, P7
2. Students are able to actively participate and understand the application of bioreactor engineering in S9, S10, K1, K3, KK2, KK5, KK6, P3, P5, P7</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
This course discusses Bioreactor Design and its Parts, Metabolism and Metabolic Engineering, Energy Balance in Bioreactors, Mass Balance in Bioreactors, Transport Phenomena in Bioreactors, Scaling-up Bioreactors and Recovery Processes, Bioreactor Design for Primary and Secondary Metabolite Production, Waste treatment of liquid/solid waste, Waste treatment of B3 waste, Application of Bioreactors in the Production of Drugs / Drug Raw Materials / Food and Agriculture</td></tr>
</table>

<table>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>35%</td></tr><tr><td>Assignment/Quiz 1</td><td>15%</td></tr><tr><td>Assignment/Quiz 2</td><td>15%</td></tr><tr><td>Final Exam</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>-</td></tr>
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<table>
<tr><td>Course designation</td><td><u>Marine Product Technology</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>6th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Meda Canti, S.T.P., M.Sc</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 338</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain the definition and classification of marine products, characteristics, processes, various problems in the traditional processing of marine products, the influence of physical, chemical and environmental conditions on the processing process (KU1, KU3, PP1)
2. Students are able to learn the principles of processing and various processing technologies of marine products that utilize low temperature, high temperature technology and moisture content modification, in order to maintain the shelf life of products, design product quality and quality and provide added value to raw materials for marine products and their development prospects in the future (KU1, KU3, KK1, KK3, KK4, KK6, PP1, PP7)
3. Students are trained to be creative and independent in thinking through group assignments and are expected to know the latest developments in</td></tr>
</table>

<table>
<tr><td></td><td>marine product technology both at home and abroad (S5, S9, S10, S11, KU1, KU3, KK1, KK3, KK4, KK6, PP1, PP7)</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
This Marine Product Technology course will provide comprehensive knowledge to students about the main foundations of marine product technology, which includes the definition and classification of marine products, characteristics, processes, various problems in the traditional processing of marine products, the influence of physical, chemical and environmental conditions on the processing process and studying the processing principles and various processing technologies of marine products that utilize low temperature, high temperature and moisture content modification technology, in order to maintain the shelf life of products, design the quality and quality of products and provide added value to the raw materials of marine products and their development prospects in the future. This course requires students to carry out self-learning through group assignments, presentations, and making product brochures with the topic of marine product technology. Thus, it can train students in increasing knowledge and insight into the development of marine product science and technology.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>30%</td></tr><tr><td>Assignment/Quiz 1</td><td>10%</td></tr><tr><td>Assignment/Quiz 2</td><td>30%</td></tr><tr><td>Final Exam</td><td>30%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Barrow, C. and Shahidi, F. 2008. Marine Nutraceuticals and Functional Foods. CRC Press. New York.
Kim, S. and Chojnacka, K. 2015. Marine Algae Extracts : Processes, Products and Applications Volume 2. Wiley-VCH Verlag GmbH & Co. German.</td></tr>
</table>

	Martin, R. E., Carter, E. P., Flick, G. J. and Davis, L. M. 2000. Marine and Freshwater Products Handbook. Technomic Publishing Company, Inc. USA. Venugopal, Vazhiyil. 2011. Marine Polysaccharides : Food Applications. CRC Press. New York

<table>
<tr><td>Course designation</td><td><u>Marine Product Technology Laboratory</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>6th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Meda Canti, S.T.P., M.Sc</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Practicum</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Practicum</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (0-2)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 342</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Mahasiswa mampu mempraktikkan teknologi pengolahan produk laut (S5, S9, S10, S11, KU1, KU2, KU7, KU8, KK1, KK2, KK3, PP2, PP6, PP7).
2. Mahasiswa mampu mempraktikkan aplikasi teknologi produk laut (S5, S9, S10, S11, KU1, KU2, KU7, KU8, KK1, KK2, KK3, PP2, PP6, PP7).
3. Students are able to practice new products that have the potential to be commercialized (S5, S9, S10, S11, KU1, KU2, KU7, KU8, KK1, KK2, KK3, PP2, PP6, PP7).</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
This course also provides an understanding of the theoretical concepts of marine product processing science and technology, formulation, application in the development and commercialization of value-added products, the manufacture of new products that have the potential to be commercialized and contribute to the creation of fish protein food sovereignty.</td></tr>
</table>

<table>
<tr><td>Examination forms</td><td>

✓	Written test
	Oral test
✓	Performance test (practical)
✓	Assignments (papers, projects, portofolios, products)

</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:

Midterm	30%
Assignment/Pre Lab	10%
Assignment/Practicum activities	10%
Assignment/report	20%
Final Exam	30%
Total	**100%**

</td></tr>
<tr><td>Reading list</td><td>

Ariestini, N. P., Suter, I. K. and Ina, P. T. 2018. Pengaruh Rasio Rumput Laut (Eucheuma cottonii) dan Stroberi (Fragaria xananassa) terhadap Karakteristik Selai. Media Ilmiah Teknologi Pangan 5(2):95-103.
Arif, K., Agustini, T. W. and Rianingsih, L. 2015. Pengaruh Penambahan Spirulina platensis Powder terhadap Karakteristik Marshmallow. Prosiding Seminar Nasional ke-V Hasil-Hasil Penelitian Perikanan dan Kelautan. Fakultas Perikanan dan Ilmu Kelautan UNDIP, 474-485.
Briani, A. M. G. T. S., Darmanto, Y. S. and Rianingsih, L. 2014. Pengaruh Konsentrasi Enzim Papain dan Lama Fermentasi terhadap Kualitas Kecap Ikan Rucah. Jurnal Pengolahan dan Bioteknologi Hasil Perikanan 3(3):121-128.
Christwardana, M., Nur, M. M. A. and Hadiyanto. 2013. Spirulina platensis: Potensinya sebagai Bahan Pangan Fungsional. Jurnal Aplikasi Teknologi Pangan 2(1):1-4.
Iskandar, T. and Widyasrini, D. A. 2009. Pengaruh Enzim Bromelin dan Waktu Inkubasi pada Proses Hidrolisis Ikan Lemuru Menjadi Kecap. Jurnal Buana Sains 9 (2) : 183-189.
Kalsum, U., Sukma, D. and Susanto, S. 2018. Pengaruh Kitosan terhadap Kualitas dan Daya Simpan Buah Tomat (Solanum lycopersicum L.). Jurnal Pertanian Presisi2(2):67-76.
Lencana, S., Nopianti, R. and Widiastuti, I. 2018. Karakteristik Selai Lembar Rumput Laut (Eucheuma cottonii) dengan Penambahan Komposisi Gula. Fishtech-Jurnal Teknologi Hasil Perikanan 7(2):104-110.
Loupatty, V. D. Nori Nutrient Analysis from Seaweed of Porphyra marcossi in Maluku Ocean. Jurnal Eksakta 14 (2): 34-48.

</td></tr>
</table>

Mudyantini, W., Santosa, S., Dewi, K. and Bintoro, N. 2017. Pengaruh Pelapisan Kitosan dan Suhu Penyimpanan terhadap Karakter Fisik Buah Sawo (Manilkara achras (Mill.) Fosberg) selama Pematangan. Jurnal Agritech 37(3):343-351.

Moniharapon, A. 2014. Teknologi Surimi dan Produk Olahannya. Majalah BIAM 10(1):16-30.

Oktaviani, R., Rahayu, K. and Suhartatik, N. 2016. Pemanfaatan Limbah Nanas (Ananas comosus L. Merr) pada Pembuatan Kecap Ikan Lele (Clarias sp) dengan Variasi Lama Fermentasi. Jurnal Teknologi dan Industri Pangan UNISRI Surakarta 2 (1) : 1-10.

Panataria, L. R. and Saragih, M. K. 2019. Penjarangan Buah dan Perendaman dalam Kitosan terhadap Lama Simpan Buah Stroberi (Fragaria chiloensis L.). Agrium: Jurnal Ilmu Pertanian 22(1):18-28.

Ramadhan, W. 2013. Perubahan Mutu dan Pendugaan Umur Simpan Surimi Kering Beku Ikan Lele (Clarias sp.). Tesis. Sekolah Pascasarjana Institut Pertanian Bogor.

Ridwan, I. M., Mus, S. and Karnila, R. 2015. Pengaruh Edible Coating dari Kitosan Terhadap Mutu Fillet Ikan Nila (Oreochronis niloticus) yang Disimpan pada Suhu Rendah. Jurnal Online Mahasiswa Universitas Riau : 1-14.

Rostini, I. 2013. Pemanfaatan Daging Limbah Filet Ikan Kakap Merah Sebagai Bahan Baku Surimi untuk Produk Perikanan. Jurnal Akuatika 4(2):141-148.

Saliada, F. Onibala, H. and Taher, N. 2017. Karakteristik Surimi yang Dibuat dari Hasil Pencucian Daging Ikan Cakalang (Katsuwonus pelamis L.) dengan Air Dingin (+4^{o}C). Jurnal Media Teknologi Hasil Perikanan 5(2): 148-151.

Siahaan, I. C. M., Dien, H. A. and Onibala, H. 2017. Mutu Mikrobiologis Kecap Ikan Tongkol (Euthynnus affinis) dengan Penambahan Sari Buah Nanas (Ananas comosus). Jurnal Pengolahan Hasil Perikanan Indonesia 20 (3) : 505-514.

Susanty, A. and Pujilestari, T. 2014. Pengaruh Penambahan Gelatin terhadap Sifat Fisikokimia Permen Jelly Rumput Laut Eucheuma cottonii. Jurnal Riset Teknologi Industri 8(16):112-122.

Wicaksana, F. C., Agustini, T. W. and Rianingsih, L. 2014. Pengaruh Penambahan Bahan Pengikat terhadap Karakteristik Fisik Surimi Ikan Patin (Pangasius hypophthalmus). Jurnal Pengolahan dan Bioteknologi Hasil Perikanan 3(3):1-8.

Widyantoro, M. K. S., Haryati, S. and Sudjatinah. 2018. Berbagai Konsentrasi Tepung Tapioka terhadap Sifat Fisikokimia dan Organoleptik Kamaboko Berbahan Dasar Surimi Ikan Kurisi (Nemipterus sp.). Jurnal Mahasiswa Universitas Semarang 1:1-10.

	Wijayanti, I., Santoso, J. and Jacoeb, A. M. 2012. Pengaruh Frekuensi Pencucian terhadap Karakteristik Gel Surimi Ikan Lele Dumbo (Clarias gariepinus). Jurnal Saintek Perikanan 8(1):32-37

<table>
<tr><td>Course designation</td><td><u>Food Regulation and Policy</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>6th Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Meda Canti, S.T.P., M.Sc.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 324</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students understand and obey laws and disciplines in the life of society and the state in applying logical, critical, systematic, and innovative thinking in the context of the development or implementation of science and technology that pays attention to and applies humanities values in accordance with their field of expertise (S7, P1)
2. Students are able to internalize the core values developed by Atma Jaya, namely Christianity, Excellence, Professionalism, and Care, by showing independent, quality, and measurable performance (S5, S9, S11)
3. Students master the theoretical concepts and application of food technology, microbiology, food safety, and food quality assurance and are able to design food product packaging with informative labels for consumers in accordance with food regulations and laws (S5, S7, S9, S11, KU1, KU2, KU5, KK4, KK5, P1)</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
Food Regulation and Policy is a mandatory course to provide information and knowledge for students about regulations and</td></tr>
</table>

<table>
<tr><td></td><td>policies that apply in the food industry, both the household food industry, and large industries, including regulations on food additives, how to retail food products, registration of processed foods, and authorized institutions.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
<table><tr><td>Midterm</td><td>35%</td></tr><tr><td>Assignment/Quiz 1</td><td>30%</td></tr><tr><td>Final Exam</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Peraturan Kepala BPOM RI No 1 Tahun 2013: Penerapan Pendaftaran Pangan Olahan Secara Elektronik
Peraturan Kepala BPOM RI No HK.03.1.23.04.12.2207 Tahun 2012: Tata Cara Pemeriksaan Sarana Produksi Pangan Industri Rumah Tangga
Peraturan lain yang tercantum dalam website BPOM dan Codex.</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Special Topics for Preliminary Food Technology Research</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>Odd/Even Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Meda Canti, S.T.P., M.Sc.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>3 * 170 min</td><td>16</td><td>136 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 3 (3-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: : BTP 411</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to create research proposal with clear foundation and objectives
2. Students are able to analyze and correlate the literature with the intended research
3. Students are able to understand appropriate research ethics</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
This course describes the procedures for drafting proposals in accordance with the rules of scientific writing by utilizing supporting applications. Ethics in conducting research, how to obtain valid and reliable literature sources, and literature studies from various journals are also discussed to support the preparation of research proposals. This proposal is the final result of this course and is used as a basis for conducting research in the final project. This course consists of 3 credits of lectures.</td></tr>
</table>

<table>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:<table><tr><td>Midterm</td><td>40%</td></tr><tr><td>Final Exam</td><td>60%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>[CSE] Council of Science Editors, Style Manual Committee. 2006. Scientific style and format: the CSE manual for authors, editors, and Publishers. Ed ke-7. Reston (US): CSE.
Article from accreditate journal / non accreditate reputation national/ international
Guide book scientific writing faculty of biotechnology
https://www.atmajaya.ac.id/id/pages/2023-buku-panduan-penulisan-ta-ftb/</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Seminar</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>Odd/Even Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Dionysius Subali, M.Biotek.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Seminar</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Seminar</td><td>1 * 170 min</td><td>-</td><td>-</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 1 (0-1)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 412</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to analyze research data and present it in the form of tables or graphs
2. Students are able to assemble seminar papers based on the result of their research progress
3. Students are able to present the hypothesis, methodology, result, and discussion of their research and able to answer the questions from the audience regarding their research</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
The seminar is the presentation of the results of research in the final project to the public. Each seminar presenter must complete a minimum of 50-70% research in final project, write a seminar paper, and present the results in a forum attended by at least 15 people. The seminar is attended by the final project advisor and a seminar moderator. Assessments are carried out by advisor and moderator based on paper writing, presentation, and the ability to answer questions on the forum. This course consists of 1 credit of seminar.</td></tr>
</table>

<table>
<tr><td>Examination forms</td><td>☐ Written test
☑ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:<table><tr><td>Supervisor assessment</td><td>50%</td></tr><tr><td>Moderator assessment</td><td>50%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Gunawan AW, Lestari D, Magdalena S, Barus T. 2018. Panduan Penulisan Karya Ilmiah Fakultas Teknobiologi. Jakarta: Unika Atma Jaya.
All reference primer trusted from 10 years ago</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Field Training</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>Odd/Even Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Jimmy Suryadi</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Field work</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Field work</td><td>4 * 170 min</td><td>7 to 21</td><td>79,3 hour to 238 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 4 (0-4)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 413</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to be familiar with the working world and begin to develop a good work ethic with their involvement in work activities in institutions or companies
2. Students are able to analyze the given task and problems encountered in institutions or companies based on scientific principles for real-world applications</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
Students must have completed a minimum study load of 100 credits with a cumulative grade point average (GPA) of 2.00 before taking the Field Practice course. In this course, students do internship at an institution outside Atma Jaya Catholic University of Indonesia to interact with the institution they choose and gain work experience at the institution. Students observe, recognize, and analyze problems found during the field practice. The scope of activities must be related to either biology, food, biotechnology, or industry. Students will be supervised by a lecturer of the Faculty of Biotechnology and a</td></tr>
</table>

<table>
<tr><td></td><td>supervisor from institutions in the field. This course consists of 4 credits of field work/training.</td></tr>
<tr><td>Examination forms</td><td>☐ Written test
✓ Oral test
✓ Performance test (practical)
✓ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:<table><tr><td>Midterm (evaluation by supervisor from the institution or company)</td><td>40%</td></tr><tr><td>Assignment 1 (presentation)</td><td>15%</td></tr><tr><td>Assignment 2 (report)</td><td>15%</td></tr><tr><td>Final exam (evaluation from advisor from university from the presentation)</td><td>30%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Gunawan AW, Lestari D, Magdalena S, Barus T. 2019. Panduan Penulisan Karya Ilmiah Fakultas Teknobiologi (Rev3). Jakarta (ID): Universitas Katolik Indonesia Atma Jaya.</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Final Project</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>Odd/Even Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Dr. Yasinta Ratna Esti Wulandari, M.Si</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory Course</td></tr>
<tr><td>Teaching methods</td><td>Thesis Defence</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Thesis Defence</td><td>6 * 170 min</td><td>-</td><td>-</td></tr>
</table>
</td></tr>
<tr><td>Credit points</td><td>Credits: 6 (0-6)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: BTP 500</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to analyze research data and present it in the form of tables or graphics
2. Students are able to assemble thesis
3. Students are able to present the hypothesis, methodology, result, and discussion of their research and able to answer the questions from the examiners</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
The learning process of 8 semesters, which includes lectures, practicum, field practice, seminar, and final research project has been done well. In this course, students will be tested comprehensively on their knowledge of biotechnology and relevant aspects of biotechnology, as well as the process and results of their research that has been completed as a prerequisite for the final project trial. Students need to report the result of the research in the form of a thesis and present it while being accountable for the result of the research and the learning in Biotechnology study program in the final trial in front of a team of examiners, consisting of supervisors, outside examiners, and trial secretaries.</td></tr>
</table>

<table>
<tr><td>Examination forms</td><td>☐ Written test
☑ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:<table><tr><td>Head examiner (supervisor I)</td><td>25%</td></tr><tr><td>Examiner I (outside examiner)</td><td>40%</td></tr><tr><td>Examiner II (supervisor II)</td><td>25%</td></tr><tr><td>Examiner III (secretary)</td><td>10%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Gunawan AW, Lestari D, Magdalena S, Barus T. 2018. Panduan Penulisan Karya Ilmiah Fakultas Teknobiologi. Jakarta: Unika Atma Jaya.</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Sport Nutrition</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>Even Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Dionysius Subali, M.Biotek.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Elective Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week</th><th>Weeks number</th><th>Total hour per semester</th></tr>
<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
</table>
*(Based on Article 19 paragraphs 1, 2, and 4 of Permendikbud No. 3 of 2020)
</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: TPP 332</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain the process of nutrient metabolism during exercise (P1,2,3)
2. Students are able to explain the adaptation process and physiology of the human body during exercise (P1,2,3)
3. Students are able to explain nutritional arrangements for athletes (before, during, and after exercise) (P1,2,3)
4. Students are able to explain the variety and working mechanism of legal and illegal ergogenic assistance (P1,2,3,4,5)
5. Students are able to design sports performance support products (KK 1,2,3); (P4,5)</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
This course discusses the definition and types of physical activity, the energy metabolism system, the body's response and adaptation during physical activity, and nutritional needs for athletes both in general and for specific purposes. An assessment of the nutritional status of sportsmen will also be given in this course. It will also be discussed about the development of food products for sportsmen in the industry</td></tr>
</table>

<table>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:<table><tr><td>Midterm</td><td>35%</td></tr><tr><td>Assignment/Quiz 1</td><td>30%</td></tr><tr><td>Final Exam</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>McGuire M & Beerman KA. 2013. Nutritional Sciences: From Fundamentals to Food, 3rd edition. Wadsworth Cengage Learning
Wardlaw Gm & Hampl JS. 2007. Perspectives in Nutrition, 7th edition. McGraw Hill
Bagchi, Nair, & Sen. 2013. Nutrition and Enhanced Sports Performance. Academic Press</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Food Product Formulation</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>Even Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Rianita Pramitasari, S.T.P, M.Sc</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Elective Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
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<tr><td>Lecture</td><td>2 * 170 min</td><td>16</td><td>90,7 hour</td></tr>
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</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: TPP 334</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain the principles, basic concepts, and benefits of food product formulation in the industry (P1, P2, P3) ➔ CPL 4
2. CPMK2 Students are able to explain food product formulation techniques (KK1, KK2, KK3, KK4, KK5, P1, P2, P3, P7) ➔CPL 4
1. CPMK3 Students are able to make formulation designs in the development of food products (KK1, KK2, KK3, KK4, KK5, P1, P2, P3, P7) ➔CPL 4</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
In this course, students learn about the basic concepts, principles, and benefits of food product formulation in the industry, formulation strategies by considering the ingredients and interactions, as well as formulation techniques to form food structures and specific goals (food for special nutrition). It was also conveyed the latest technology that can support effectiveness and efficiency in formulation.</td></tr>
</table>

<table>
<tr><td>Examination forms</td><td>
☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)
</td></tr>
<tr><td>Study and examination requirements</td><td>
Rating Weight:
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<tr><td>Midterm</td><td>35%</td></tr>
<tr><td>Assignment/Quiz 1</td><td>15%</td></tr>
<tr><td>Assignment/Quiz 2 (presentation)</td><td>15%</td></tr>
<tr><td>Final Exam</td><td>35%</td></tr>
<tr><td>Total</td><td>100%</td></tr>
</table>
</td></tr>
<tr><td>Reading list</td><td>

Allen L, de Benoist B, Dary O, Hurell R. 2006. Guidelines on Food Fortification with Micronutrients. WHO-FAO.
Centre of Advanced Studies of Dairy Technology. Cas Short Course on Advances in Formulated Foods, 10 Juni-10 Juli 2000.
Norton JE, Fryer PJ, Norton IT. 2013. Formulation Engineering of Foods. Wiley Blackwell.
Ottaway PB. 2008. Food Fortification and Supplementation. CRC Press, USA.
Pathania S & Tiwari BK. 2021. Food Formulation: novel ingredients and processing techniques. Wiley Blackwell, Ireland.
Pramitasari, R. Karmelita, D., Hartanti, A.T. Sodium reduction in chicken nuggets substitued by Indonesian overripe tempeh powder and their sensory characterization using check-all-that-apply (CATA). Disampaikan pada 16th NZOZ Sensory and Consumer Science Symposium, 15-17 Februari 2022 di Australia (online).

</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Jamu and Herbs</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>Even Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Yanti</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Elective Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
<table>
<tr><th>Type</th><th>Minutes per week</th><th>Weeks number</th><th>Total hour per semester</th></tr>
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</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: TPP 346</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to understand the holistic concept of Indonesian herbal medicine and jamu.
2. Students are able to differentiate the commercialization concepts of herbal medicine and industrial herbal medicine.
3. Students are able to explain the concept of herbal medicine, its materials, applications, regulations and safety, as well as formulation technology.
4. Students are able to explain the concept of Indonesian herbs, their applications, regulations and safety, as well as production technology.
5. Students are able to differentiate between the types of herbal medicines permitted in Indonesia based on existing regulations.
6. Students are able to apply the concept of knowledge about herbal medicine and herbs in the form of group project assignments in the form of herbal medicine products based on food biotechnology with a scientific and holistic approach.</td></tr>
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<tr><td>Content</td><td><u>Course Description:</u>
The Jamu and Herbal course provides a holistic description of the concept of Indonesian jamu and herbal as one of the nation's cultural heritages and part of local wisdom. Students will be introduced to the history and philosophy of jamu since ancient times, the concept and trends of jamu for health and beauty, including jamu gendong and jamu industri, the main ingredients in making jamu, regulations on jamu scientification, control of jamu quality control, and technology for formulating jamu preparations. Students will also be introduced to typical Indonesian herbs that have been used for a long time in traditional medicine and Indonesian cuisine, views of the concept of herbs globally and locally, knowledge of herbal materia and phytotherapy, regulations on traditional medicine (jamu), standardized herbal medicines, and phytopharmaceuticals, a number of case studies related to the consumption and safety of herbal medicines, and herbal formulation technology with the application of natural material chemistry.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☑ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:<table><tr><td>Midterm</td><td>25%</td></tr><tr><td>Assignment/Quiz 1</td><td>35%</td></tr><tr><td>Assignment/Quiz 2</td><td>15%</td></tr><tr><td>Final Exam</td><td>25%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Main:
Beers SJ. 2001. Jamu: The Ancient Indonesian Art of Herbal Healing. Singapore: Periplus.

Support

Elfahmi, Woerdenbag H, Kayser O. 2014. Jamu: Indonesian traditional herbal medicine towards rational phytopharmacological use. J Herbal Medicine 4: 51-73.</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Flavor and Fragrans</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>Odd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Widya Agustinah, M.Sc.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Elective Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
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</td></tr>
<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: TPP 431</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain examples, types, and sources of flavor and fragrans compounds
2. Students are able to explain the human sensory system and connect it with the perception of flavor
3. Students are able to explain the definition and types of essential oils as well as their physicochemical and functional properties
4. Students are able to show flavor compounds in various types of food products, such as herbs and spices, fermented foods (savory), beer. coffee, tea, chocolate
5. Students are able to explain the technology of modifying flavor compounds with enzymes and additives
6. Students are able to explain the process of creating and applying flavors in the industry
7. Students are able to explain the technology of extraction, identification, and characterization of flavor and fragrans compounds</td></tr>
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<tr><td></td><td>8. Students are able to explain the concept of biotransformation and biosynthesis of flavor and fragrans compounds and give examples
9. Students are able to produce studies on new flavor innovations in food products</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
Flavors and fragrans are compounds that give flavor to food and non-food products. Knowledge of flavors and fragrants, starting from the classification of compound types, sources, extraction principles, applications, and aspects of biotechnology will be studied in this course. Experiences from the world of the flavor and/or fragrance industry will be conveyed through guest lectures by inviting food industry figures or visits to the flavor industry.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:<table><tr><td>Midterm</td><td>20%</td></tr><tr><td>Assignment/Quiz 1 (Post-Assesment)</td><td>30%</td></tr><tr><td>Assignment/Quiz 2 (Presentation)</td><td>20%</td></tr><tr><td>Final Exam</td><td>30%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Baser KHC and Buchbuer G [Ed]. 2010. Handbook of Essential Oils Science, Technology and Applications. Boca Raton: CRC Press.
Berger RG [Ed]. 2007. Flavour and Fragrance Chemistry, Bioprocessing and Sustainability. Germany: Springer.
Surburg H and Panten J. 2006. Common Fragrance and Flavor Materials Preparation, Properties and Uses. 5th Ed. Weinheim: Wiley-VCH.</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Beauty Foods and Cosmeceuticals</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>Odd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Yanti (PhD)</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Elective Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
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<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
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<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: TPP 433</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students understand the regulation and safety of cosmetic and cosmetic products
2. Students understand about herbal cosmetic formulations, marine, and fermentation, as well as halal cosmetic formulations
3. Students practice a demonstration of making cosmetic products from natural ingredients0</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
In this lecture, students will be introduced to the concept of beauty foods and cosmetics and its trends both globally and in Indonesia itself. Students will be explained about regulations and safety related to various igredien in cosmetic and cosmetic products circulating in the market Indonesia. Students will be provided with learning about screening and bioassay methodologies at the molecular level for the study of cosmetic products and their active ingredients. Students will also learn an up-to-date understanding of the latest cosmetic trends from herbal, marine, and fermentation ingredients, as well as their formulation technology. Students will be given knowledge about the cosmetic aspects of halal, its</td></tr>
</table>

<table>
<tr><td></td><td>formulation process and its marketing in Indonesia. Students will also get guest lectures related to branding trends and cosmetic product start-ups from industry practitioners. At the end of the lecture, students were also given skills in making demonstrations of various kinds of cosmetic products with natural ingredients.</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☑ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:<table><tr><td>Midterm</td><td>25%</td></tr><tr><td>Assignment/Quiz 1</td><td>10%</td></tr><tr><td>Assignment/Quiz 2</td><td>40%</td></tr><tr><td>Final Exam</td><td>25%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>The newest journal article about cosmetic research and tren</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>Personalized Nutrition</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>Odd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Dionysius Subali, M.Biotek.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Elective Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
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<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
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<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: TPP 439</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to explain the definitions of nutrition, nutrigenomics and nutrigenetics and provide examples
2. Students are able to explain the components of macronutrients and micronutrients and their role in health and connect macronutrient metabolism from digestion to excretion
3. CPMK3 Students are able to relate the role of nutrition and lifestyle for the control of genetic function (epigenetics)
4. Students are able to relate the role of nutrigenomics to health and disease prevention, such as inflammation, tumors/cancer, athlete fitness, ideal body weight management, metabolic syndrome diseases, mental health, and aging
5. Students are able to explain analysis and instrumentation techniques in nutrigenomics case studies
6. Students are able to create nutrigenomics application schemes in the digital industry era 4.0</td></tr>
<tr><td>Content</td><td><u>Course Description:</u></td></tr>
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<table>
<tr><td></td><td>This course discusses specific nutritional responses and mechanisms to individuals and groups, as well as their relationship with metabolomics syndrome. Responses and mechanisms are specifically determined by the diversity of matter genetics in the form of SNPs in genes that regulate nutrient metabolism. Comprehensively, students will be taught research patterns in personalized nutrition applications so that they can understand the methods and results of genetic analysis that are commonly carried out</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☐ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:<table><tr><td>Midterm</td><td>35%</td></tr><tr><td>Assignment/Quiz 1</td><td>30%</td></tr><tr><td>Final Exam</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Brown JE. 2002. Nutrition Now Third Edition. Canada: Nelson Thomson Learning.
Segal E, Elinav E. 2017. The Personalized Diet. New York: Grand Central Life & Style.
Nestlé Nutrition Workshop (62nd : 2007 : Helsinki, Finland) Personalized nutrition for the diverse needs of infants and children / editors, Dennis M. Bier, J. Bruce German, Bo0 Lönnerdal. Switzerland: Karger.</td></tr>
</table>

<table>
<tr><td>Course designation</td><td><u>French</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>Odd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Dr. Ir. Rory A Hutagalung, DEA</td></tr>
<tr><td>Language</td><td>French and Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Elective Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
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<tr><th>Type</th><th>Minutes per week*</th><th>Weeks number</th><th>Total hour per semester</th></tr>
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<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: TPP 441</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. able to mention verb conjugations and adjust to the subject according to the verb class and diagram conjugation patterns/formulas (A2, C1, C4)
2. able to compose and exemplify sentences according to their elements, analyze verb conjugations, and answer questions according to the sentence in question (A2, C1, C2, C4)
3. able to mention verb values, exemplify verbs, and analyze changes according to subject, time or mode (A2, C1, C2, C4)
4. able to apply, exemplify, and analyze the principles of conjugation of sentence rules and verb changes in written or oral form (A2, P2, C2, C3, C4)</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
The French language course studies the structure and logic of the French language with a systematic and holistic approach directed at French language skills in the aspects of written understanding (compréhension écrite), oral understanding (compréhension</td></tr>
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<table>
<tr><td></td><td>orale), oral expression ability (orale), and written expression ability (expression écrite).</td></tr>
<tr><td>Examination forms</td><td>☑ Written test
☑ Oral test
☐ Performance test (practical)
☑ Assignments (papers, projects, portofolios, products)</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:<table><tr><td>Midterm</td><td>35%</td></tr><tr><td>Assignment/Quiz 1</td><td>10%</td></tr><tr><td>Assignment/Quiz 2 (Class participation)</td><td>20%</td></tr><tr><td>Final Exam</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Reading list</td><td>Hutagalung, R. A. 2004. Grammaire Française. Suatu Pendekatan Sistematik dan Holistik Gramedia Pustaka Utama, Jakarta
Hutagalung RA. 2013. Metode Praktis Belajar Bahasa Prancis. Gramedia Pustaka Utama, Jakarta 253 hal.
Sirejol, E. et P. Claude 1990. Grammaire Avec 450 Nouveaux Exercisies. CLE Int. Paris</td></tr>
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<table>
<tr><td>Course designation</td><td><u>Science Communication</u></td></tr>
<tr><td>Semester(s) in which the course is taught</td><td>Odd Semester</td></tr>
<tr><td>Person responsible for the course</td><td>Watumesa A. Tan</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Elective Course</td></tr>
<tr><td>Teaching methods</td><td>Lecture</td></tr>
<tr><td>Workload</td><td>
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<tr><td>Credit points</td><td>Credits: 2 (2-0)</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Code: TPP 445</td></tr>
<tr><td>Course objectives/intended learning outcomes</td><td><u>Course Learning Outcomes:</u>
1. Students are able to use basic science communication skills (S3, S9, KU9, KK2, P6)
2. Students are able to create communication media (S3, S9, KU9, KK2, P6)</td></tr>
<tr><td>Content</td><td><u>Course Description:</u>
The science community produces new data and discoveries at a rapid pace. To increase the role of science in the eyes of the public, scientists need to discuss complex scientific discoveries and concepts in a clear and relevant way for members of society. Often, students as future scientists acquire the ability to communicate in academic situations, where the people involved are mostly from the same field. Instead, they often have difficulty explaining their field of study and its benefits in a simple and easy-to-understand way. Through this course, students will try to bridge the academic community with people with different skill backgrounds.</td></tr>
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<tr><td>Examination forms</td><td>
<table>
<tr><td></td><td>Written test</td></tr>
<tr><td></td><td>Oral test</td></tr>
<tr><td>✓</td><td>Performance test (practical)</td></tr>
<tr><td>✓</td><td>Assignments (papers, projects, portofolios, products)</td></tr>
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</td></tr>
<tr><td>Study and examination requirements</td><td>Rating Weight:
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<tr><td>E-learning activities Midterm</td><td>30%</td></tr>
<tr><td>Weekly reflection video</td><td>30%</td></tr>
<tr><td>Article blog / public service video Final Exam</td><td>40%</td></tr>
<tr><td>Total</td><td>100%</td></tr>
</table>
</td></tr>
<tr><td>Reading list</td><td>Simple Writer [Software]. Retrieved from http://www.xkcd.com/simplewriter/
Wisnubrata. 2017. Gemetar setelah minum kopi? Mungkin anda overdosis kafein [in Indonesian]. Retrieved from http://lifestyle.kompas.com/read/2017/09/05/061500420/ gemetar-setelah-minum-kopi-mungkin-anda-overdosis-kafein
Yong, E. 2010. Gut bacteria in Japanese people borrowed sushi-digesting genes from ocean bacteria [Blog post]. Retrieved from http://blogs.discovermagazine.com/notrocketscience/2010/04/07/gut-bacteria-in-japanese-people-borrowed-sushi-digesting-genes-from-ocean-bacteria/#.WZ_0w_BXeEc</td></tr>
</table>