

時間割コード	KZ4002	ナンバリング	KZ-MUL-332-AIM	科目分野	一般講義
開講曜日・時限	集中	単位数	2	日英区分	日本語
対象学生	L S A	対象年次	2年次～4年次		
開講年度	2022年度後期 共通教育（基盤・教養・教育学部以外の教職）				
科目名	環境共生論				
担当教員（ローマ字表記）	成澤 才彦, 黒田 久雄, 坂上 伸生, 森 聖治 (KURODA Hisao, Seiji Mori)				
シラバス用備考	【後期】				

授業題目/Title

授業の概要/Course Overview

The lecture contains (1) an understanding regarding the basic theory of natural environment or environmental resources in Japan and the world and (2) an understanding of the environmental problems or social trends from the viewpoint of symbiosis.

キーワード/Keyword(s)

Nutrient cycling, Agro ecology, Soil management, Soil microbe, Climate change, Toxic substances, Carbon cycle, Oxygen cycle

到達目標/Learning Objectives

Students can obtain the latest knowledge regarding environmental and symbiotic sciences throughout the lecture and discussion.

授業及び授業外の学修/Lesson plans & homework

1. Introduction: What is "Environmental and symbiotic sciences" (KN)
 2. Nature of the symbiotic association (KN)
 3. The role of microorganisms in situ (KN)
 4. Eutrophication problem of a lake (HK)
 5. Water quality and hydrology, purification of a lake (HK)
 6. Soil resource for agricultural production 1 (NS)
 7. Soil resource for agricultural production 2 (NS)
 8. Soil formation and plant-microbe-soil interactions 1 (NS)
 9. Soil formation and plant-microbe-soil interactions 2 (NS)
 10. Review of general chemistry -Molecular structure/interactions and reactivity (SM).
 11. Enzymatic reactions and influence of toxic substances (SM)
 12. Carbon and oxygen cycles in environment (SM)
 13. Wrap-up discussions 1 (KN)
 14. Wrap-up discussions 2 (KN)
 15. Wrap-up discussions 3 (KN)
- *Face-to-Face class (can be HyFlex or Real-Time Online)
- [Homework]
- Texts and/or references will be shared using MS TEAMS. Self-learning (approximately 90 minutes/class) will be required for preparation. Students are encouraged to learn more about environmental and symbiotic sciences by reading academic papers and reference books.
- [Active learning]
- Group discussions will be held in each class.

履修上の注意/Notes

Contact: AIMS Steering Committee (Dr. Nobuo SAKAGAMI) is anytime available through MS TEAMS.

情報端末の活用

Laptop PC

成績評価基準/Evaluation criteria

A+ (90-100): able to suggest an action plan for sustainable management of environment

A (80-89): able to assess the process for sustainable management of environment

B (70-79): able to discuss what is sustainable management of environment

C (60-69): obtain basic knowledge on sustainable management of environment

D (0-59): unable to understand sustainable management of environment

成績の評価方法/Grading

Learning results are evaluated by reports on the assigned subjects (not evaluated by final examination).

教科書/Textbook(s)

参考書/Reference Book(s)

関連するディプロマ・ポリシーの要素・能力

世界の俯瞰的理解	◎
専門分野の学力	○
課題解決能力	◎
コミュニケーション力	◎
実践的英語力	○
社会人としての姿勢	△
地域活性化志向	△

アクティブ・ラーニング型科目

○

PBL科目

地域志向科目

使用言語

英語

実務経験のある教員による授業科目

実践的教育から構成される授業科目

社会人リカレント教育（専門コース・カスタムコース）

授業科目提供	×	受講条件等	
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時間割コード	KZ4003	ナンバリング	KZ-MUL-332-AIM	科目分野	一般講義
開講曜日・時限	集中	単位数	2	日英区分	日本語
対象学生	L S A	対象年次	2年次～4年次		
開講年度	2022年度後期 共通教育（基盤・教養・教育学部以外の教職）				
科目名	環境保全型農業論				
担当教員（ローマ字表記）	小松崎 将一, 佐藤 達雄, 須藤 まどか (SATO Tatsuo)				
シラバス用備考	【後期】				

授業題目/Title

授業の概要/Course Overview

The lecture contains (1) an understanding regarding the fundamental knowledge of nutrient cycling function of an agro-ecosystem in Japan and the world and (2) an understanding of the consideration to balance with environment and productivity from the viewpoint of sustaining agriculture that considered mitigation of the environmental impact.

キーワード/Keyword(s)

Sustainable & conservation agriculture, Fertilizer and pesticides, Paddy field, Organic farming, Breeding

到達目標/Learning Objectives

Students can obtain the conceptual frameworks of environmental conservation agriculture throughout the lecture and discussion.

授業及び授業外の学修/Lesson plans & homework

1. Farm machinery and cover crops in upland fields 1 (MK)
2. Farm machinery and cover crops in upland fields 2 (MK)
3. Ecological benefits of organic farming 1 (MK)
4. Ecological benefits of organic farming 2 (MK)
5. Meaning of environmental conservation agriculture (TS)
6. Reduction of chemical fertilizer and pesticides. (TS)
7. Nutritional strategies to reduce the environmental impact of animal production 1 (MS)
8. Nutritional strategies to reduce the environmental impact of animal production 2 (MS)
9. Sustainable agriculture and organic farming 1 (NS)
10. Sustainable agriculture and organic farming 2 (NS)
11. Soil properties and carbon sequestration 1 (NS)
12. Soil properties and carbon sequestration 2 (NS)
13. Wrap-up discussion 1 (MK)
14. Wrap-up discussion 2 (MK)
15. Wrap-up discussion 3 (MK)

*Face-to-Face class (can be HyFlex or Real-Time Online)

[Homework]

Texts and/or references will be shared using MS TEAMS. Self-learning (approximately 90 minutes/class) will be required for preparation. Students are encouraged to learn more about environmental conservation agriculture by reading academic papers and reference books.

[Active learning]

Group discussions will be held in each class.

履修上の注意/Notes

Contact: AIMS Steering Committee (Dr. Nobuo SAKAGAMI) is anytime available through MS TEAMS.

情報端末の活用

Laptop PC

成績評価基準/Evaluation criteria

A+ (90-100): able to suggest an action plan for environment-friendly agriculture

A (80-89): able to assess the process for environment-friendly agriculture

B (70-79): able to discuss what is environment-friendly agriculture

C (60-69): obtain basic knowledge on environment-friendly agriculture

D (0-59): unable to understand environment-friendly agriculture

成績の評価方法/Grading

Learning results are evaluated by reports on the assigned subjects (not evaluated by final examination).

教科書/Textbook(s)

参考書/Reference Book(s)

関連するディプロマ・ポリシーの要素・能力

世界の俯瞰的理解	◎
専門分野の学力	◎
課題解決能力	○
コミュニケーション力	○
実践的英語力	△
社会人としての姿勢	△
地域活性化志向	△

アクティブ・ラーニング型科目

○

PBL科目

地域志向科目

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使用言語

英語

実務経験のある教員による授業科目

--

実践的教育から構成される授業科目

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社会人リカレント教育（専門コース・カスタムコース）

授業科目提供	×	受講条件等	
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時間割コード	KZ4004	ナンバリング	KZ-SMI-332-AIM	科目分野	演習
開講曜日・時限	集中	単位数	1	日英区分	日本語
対象学生	L S A	対象年次	2年次～4年次		
開講年度	2022年度後期 共通教育（基盤・教養・教育学部以外の教職）				
科目名	フィールド実践演習				
担当教員（ローマ字表記）	坂上 伸生				
シラバス用備考	【後期】				

授業題目/Title

授業の概要/Course Overview

This course will be held to understand regional sustainability by means of multifaceted research of sustainable agriculture. For attaining this purpose, it involves plenary lectures and field practices, laboratory works, technical tours and group discussion in regard to environmental impact and sustainability of agriculture.

キーワード/Keyword(s)

Bio-resource & risk management, Global & regional environment, Production technology & marketing strategy, International cooperation & governance

到達目標/Learning Objectives

Discussions throughout field works would be focused for raising the issues related to the agricultural practices in relation with regional sustainability and formulate the solutions for respective issue raised.

授業及び授業外の学修/Lesson plans & homework

1. General lecture on sustainable agriculture
2. Field works on sustainable agriculture 1 (keywords: successful development; agricultural extension; communication and organization; eco-friendly farming; environmental impacts etc.)
3. Field works on sustainable agriculture 2
4. Field works on sustainable agriculture 3
5. Field works on sustainable agriculture 4
6. Field works on sustainable agriculture 5
7. General discussion on agricultural sustainability
8. General discussion on a regional sustainability

*Face-to-Face class
[Homework]
Handouts will be shared using MS TEAMS. Self-learning (approximately 90 minutes/class) will be required for preparation. Students are encouraged to learn more about sustainable agriculture by reading academic papers and reference books.
[Active learning]
Group discussions will be held in each class.

履修上の注意/Notes

Contact: AIMS Steering Committee (Dr. Nobuo SAKAGAMI) is anytime available through MS TEAMS.

情報端末の活用

Laptop PC

成績評価基準/Evaluation criteria

A+ (90-100): able to suggest an action plan for sustainable agriculture

A (80-89): able to assess the process for sustainable agriculture

B (70-79): able to discuss what is sustainable agriculture

C (60-69): obtain basic knowledge on sustainable agriculture

D (0-59): unable to understand sustainable agriculture

成績の評価方法/Grading

Learning results are evaluated by a final group discussion (not evaluated by final examination).

教科書/Textbook(s)

参考書/Reference Book(s)

関連するディプロマ・ポリシーの要素・能力

世界の俯瞰的理解	◎
専門分野の学力	△
課題解決能力	○
コミュニケーション力	○
実践的英語力	△
社会人としての姿勢	◎
地域活性化志向	◎

アクティブ・ラーニング型科目

○

PBL科目

地域志向科目

使用言語

英語

実務経験のある教員による授業科目

--

実践的教育から構成される授業科目

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社会人リカレント教育（専門コース・カスタムコース）

授業科目提供	×	受講条件等	
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時間割コード	KZ4005	ナンバリング	KZ-MUL-312-AIM	科目分野	一般講義
開講曜日・時限	集中	単位数	2	日英区分	日本語
対象学生	L S A	対象年次	2年次～4年次		
開講年度	2022年度後期 共通教育（基盤・教養・教育学部以外の教職）				
科目名	環境変動適応・防災論				
担当教員（ローマ字表記）	小寺 昭彦, 田村 誠 (Kotera Akihiko, Tamura Makoto)				
シラバス用備考	【後期】				

授業題目/Title

授業の概要/Course Overview

This lecture presents a perspective of climate change issues from the viewpoint of global and regional sustainability. First, it will focus on the impacts of climate change, disasters, agriculture, and ecosystem. Then, the concepts of countermeasures against global warming, mitigation and adaptation, and targets and adaptation options will be introduced. We will consider the relationship between climate change adaptation and disaster risk management through the lecture.

キーワード/Keyword(s)

Climate change, Mitigation, Adaption, Disaster risk management, Ecosystem

到達目標/Learning Objectives

Students can obtain the latest knowledge and idea on dealing with multiple risks such as climate change and disaster risk.

授業及び授業外の学修/Lesson plans & homework

1. Introduction (MT)
2. Sustainability issues and climate change (MT)
3. Mechanisms and present situation of climate change (MT)
4. Countermeasures for climate change: adaptation (MT)
5. Countermeasures for climate change: mitigation (MT)
6. Relationship between energy, economy, and environment (incl. climate change) (MT)
7. Risk perception and communication (FL)
8. National policies for climate adaptation (FL)
9. Building smart, resilient communities and urban systems (FL)
10. Accelerating innovation for climate technologies (FL)
11. Disaster and sustainable development in agriculture (AK)
12. Flood damage control in agriculture (AK)
13. Adaptation technologies in agriculture (AK)
14. Group-work & Wrap-up (MT and AK)
15. Discussion & Examination

*Face-to-Face class (can be HyFlex or Real-Time Online)

Handouts will be shared using MS TEAMS.

Self-learning (approximately 90 minutes/class) will be required for preparation.

Students are encouraged to learn more about climate change issues from the viewpoint of global and regional sustainability by

reading academic papers and reference books.
Texts and/or references are introduced as appropriate by the instructor.

履修上の注意/Notes

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情報端末の活用

Laptop PC

成績評価基準/Evaluation criteria

A+ (90-100): able to suggest an action plan for environmental change and disaster risk
A (80-89): able to assess the process for environmental change and disaster risk
B (70-79): able to discuss what is environmental change and disaster risk
C (60-69): obtain fundamental knowledge on environmental change and disaster risk
D (0-59): unable to understand environmental change and disaster risk

成績の評価方法/Grading

Learning results are evaluated by examining the assigned subjects at the last session.
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教科書/Textbook(s)

参考書/Reference Book(s)

参考書1

書名	Climate change and global sustainability : a holistic approach
著者名	edited by Akimasa Sumi, Nobuo Mimura, Toshihiko Masui
出版社	United Nations University Press
出版年	2011
ISBN	9280811819
教材費	

参考書2

書名	Interlocal Adaptations to Climate Change in East and Southeast Asia
著者名	Ito,T., M.Tamura, A.Kotera, Y.Ishikawa-Ishiwata (eds.)
出版社	Springer
出版年	2022
ISBN	9783030812065
教材費	

関連するディプロマ・ポリシーの要素・能力

世界の俯瞰的理解	◎
専門分野の学力	◎
課題解決能力	○
コミュニケーション力	○
実践的英語力	○
社会人としての姿勢	△
地域活性化志向	△

アクティブ・ラーニング型科目

PBL科目

地域志向科目

使用言語

実務経験のある教員による授業科目

実践的教育から構成される授業科目

社会人リカレント教育（専門コース・カスタムコース）

授業科目提供		受講条件等	
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時間割コード	KZ4007	ナンバリング	KZ-SMI-332-AIM	科目分野	演習
開講曜日・時限	集中	単位数	1	日英区分	日本語
対象学生	L S A	対象年次	2年次～4年次		
開講年度	2022年度後期 共通教育（基盤・教養・教育学部以外の教職）				
科目名	異文化交流				
担当教員（ローマ字表記）	坂上 伸生				
シラバス用備考	【後期】				

授業題目/Title

授業の概要/Course Overview

This course will be held to understand cultural differences among Asian countries by cross-cultural communication with Japanese students in elementary and secondary education. International students who take this course will have cross-cultural communication session(s) at elementary, junior high or high school(s).

キーワード/Keyword(s)

Cross-culture, Communication, Japan, ASEAN, Citizenship, Soft skill, Identity

到達目標/Learning Objectives

Cross-cultural communication is focused for improving ability to operate in an international environment, and to developing personal and socio-cultural links among Asian countries. This course is arranged to promote a sense of ASEAN+3 citizenship.

授業及び授業外の学修/Lesson plans & homework

1. Japanese culture and education system
2. Cultural diversity and ASEAN+3 citizenship
3. Preparation for introducing home country 1
4. Preparation for introducing home country 2
5. Cross-cultural communication session at elementary, junior high or high school(s) 1
6. Cross-cultural communication session at elementary, junior high or high school(s) 2
7. Discussion on sustainable development of Asian countries
8. Discussion on talents as a global citizen

*Face-to-Face class

[Homework]
Handouts will be shared using MS TEAMS. Self-learning (approximately 90 minutes/class) will be required for preparation. Students are encouraged to learn more about cultural exchange and global communication

[Active learning]
Group discussions will be held in each class.

履修上の注意/Notes

Students who earned TOEFL iBT60 can take this course.
Contact: AIMS Steering Committee (Dr. Nobuo SAKAGAMI) is anytime available through MS TEAMS.

情報端末の活用

Laptop PC

成績評価基準/Evaluation criteria

A+ (90-100): able to suggest an action plan for mutual understanding
A (80-89): able to assess the process for mutual understanding
B (70-79): able to discuss what is mutual understanding
C (60-69): obtain basic knowledge on mutual understanding
D (0-59): unable to understand mutual understanding

成績の評価方法/Grading

Learning results are evaluated by a report on the assigned subjects (not evaluated by final examination).

教科書/Textbook(s)

参考書/Reference Book(s)

関連するディプロマ・ポリシーの要素・能力

世界の俯瞰的理解	◎
専門分野の学力	△
課題解決能力	○
コミュニケーション力	○
実践的英語力	△
社会人としての姿勢	◎
地域活性化志向	◎

アクティブ・ラーニング型科目

○

PBL科目

地域志向科目

使用言語

英語

実務経験のある教員による授業科目

--

実践的教育から構成される授業科目

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社会人リカレント教育（専門コース・カスタムコース）

授業科目提供	×	受講条件等	
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時間割コード	KZ4008	ナンバリング	KZ-INS-312-AIM	科目分野	一般講義
開講曜日・時限	集中	単位数	1	日英区分	日本語
対象学生	L S A	対象年次	2年次～4年次		
開講年度	2022年度後期 共通教育（基盤・教養・教育学部以外の教職）				
科目名	地域サステイナビリティ学特別講義 I				
担当教員（ローマ字表記）	鈴木 穂高（Hodaka Suzuki）				
シラバス用備考	【後期】				

授業題目/Title

授業の概要/Course Overview

This course is 2 days program. 1st day: Lectures on Risk analysis for food safety; 2nd day: Lectures on Food processing.

キーワード/Keyword(s)

Risk analysis, Foodborne diseases, Genetically modified organisms, Food processing, Crops, Substitution

到達目標/Learning Objectives

Students can obtain the latest knowledge regarding food safety and food processing

授業及び授業外の学修/Lesson plans & homework

1. Introduction to food safety in Japan (HS)
2. Overview of food safety in Japan (TI)
3. Risk assessment (TI)
4. Risk management & risk communication (TI)
5. Processing of main crops in Japan: Soybean (KM)
6. Processing of main crops in Japan: Rice (KM)
7. Processing of main crops in Japan: Wheat (KM)
8. Latest trends of food processing in the world: Substitution and novel materials (KM)

*Face-to-Face class (can be HyFlex or Real-Time Online)

[Homework]

Texts and/or references will be shared using MS TEAMS. Self-learning (approximately 90 minutes/class) will be required for preparation. Students are encouraged to learn more about food safety and sustainability by reading academic papers and reference books.

履修上の注意/Notes

Contact: AIMS Steering Committee (Dr. Nobuo SAKAGAMI) is anytime available through MS TEAMS.

情報端末の活用

Laptop PC

成績評価基準/Evaluation criteria

A+ (90-100): able to suggest an action plan for food safety and sustainability
A (80-89): able to assess the process for food safety and sustainability
B (70-79): able to discuss what is food safety and sustainability
C (60-69): obtain basic knowledge on food safety and sustainability
D (0-59): unable to understand food safety and sustainability

成績の評価方法/Grading

Learning results are evaluated by a report on the assigned subjects (not evaluated by final examination).

教科書/Textbook(s)

参考書/Reference Book(s)

関連するディプロマ・ポリシーの要素・能力

世界の俯瞰的理解	○
専門分野の学力	◎
課題解決能力	○
コミュニケーション力	△
実践的英語力	△
社会人としての姿勢	△
地域活性化志向	△

アクティブ・ラーニング型科目

PBL科目

地域志向科目

使用言語

英語

実務経験のある教員による授業科目

実践的教育から構成される授業科目

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社会人リカレント教育（専門コース・カスタムコース）

授業科目提供	×	受講条件等	
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時間割コード	KZ4009	ナンバリング	KZ-INS-312-AIM	科目分野	一般講義
開講曜日・時限	集中	単位数	1	日英区分	日本語
対象学生	L S A	対象年次	2年次～4年次		
開講年度	2022年度後期 共通教育（基盤・教養・教育学部以外の教職）				
科目名	地域サステイナビリティ学特別講義Ⅱ				
担当教員（ローマ字表記）	豊田 淳				
シラバス用備考	【後期】				

授業題目/Title

授業の概要/Course Overview

This course is 2 days program. 1st day: Lectures on taurine deficiency and disorders; 2nd day: Lectures on mouse models for psychiatric disorders.

キーワード/Keyword(s)

Taurine deficiency and disorders, Mice, Behavior, Psychiatric disorders

到達目標/Learning Objectives

Students can obtain the latest knowledge regarding taurine treatment and mouse behavior throughout the lecture and discussion.

授業及び授業外の学修/Lesson plans & homework

1. Introduction on the course (AT)
2. What is taurine? (TM)
3. Taurine deficiency and disorders (TM)
4. Beneficial effects of taurine treatment (TM)
5. Behavioral analysis of genetically engineered mice. (KT)
6. Mouse models for psychiatric disorders. (KT)
7. Are mice good models for understanding human disease? (KT)
8. Discussion & report (AT)

*Face-to-Face class (can be HyFlex or Real-Time Online)

[Homework]

Texts and/or references will be shared using MS TEAMS. Self-learning (approximately 90 minutes/class) will be required for preparation. Students are encouraged to learn more about animal/human growth and development by reading academic papers and reference books.

履修上の注意/Notes

Contact: AIMS Steering Committee (Dr. Nobuo SAKAGAMI) is anytime available through MS TEAMS.

情報端末の活用

Laptop PC

成績評価基準/Evaluation criteria

A+ (90-100): able to suggest an action plan for sustainable development of human society

A (80-89): able to assess the process for sustainable development of human society

B (70-79): able to discuss what is sustainable development of human society

C (60-69): obtain basic knowledge on sustainable development of human society

D (0-59): unable to understand sustainable development of human society

成績の評価方法/Grading

Learning results are evaluated by a report on the assigned subjects.

教科書/Textbook(s)

参考書/Reference Book(s)

関連するディプロマ・ポリシーの要素・能力

世界の俯瞰的理解	○
専門分野の学力	◎
課題解決能力	○
コミュニケーション力	△
実践的英語力	△
社会人としての姿勢	△
地域活性化志向	△

アクティブ・ラーニング型科目

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PBL科目

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地域志向科目

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使用言語

英語

実務経験のある教員による授業科目

実践的教育から構成される授業科目

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社会人リカレント教育（専門コース・カスタムコース）

授業科目提供	×	受講条件等	
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時間割コード	KZ4010	ナンバリング	KZ-SMI-332-AIM	科目分野	演習
開講曜日・時限	集中	単位数	1	日英区分	日本語
対象学生	A	対象年次	2年次～4年次		
開講年度	2022年度後期 共通教育（基盤・教養・教育学部以外の教職）				
科目名	地域サステイナビリティ学ゼミナール				
担当教員（ローマ字表記）	坂上 伸生				
シラバス用備考	【後期】				

授業題目/Title

授業の概要/Course Overview

This course is designed to learn a variety of researches conducted at the current topics of "Biological Production Science, Bioresource Science and Environmental Science". The purpose of this course is to learn the technique and idea regarding the selected subject of research.

キーワード/Keyword(s)

Refer to the academic advisors' information at <http://ddp.agr.ibaraki.ac.jp/english/researchers/researcher.html>.

到達目標/Learning Objectives

Students can obtain the problem-solving capability about the issues related to the selected subject of research.

授業及び授業外の学修/Lesson plans & homework

1. Introduction of each laboratory (Guidance is held on the first day)
2. The seminar in the selected laboratory 1
3. The seminar in the selected laboratory 2
4. The seminar in the selected laboratory 3
5. The seminar in the selected laboratory 4
6. The seminar in the selected laboratory 5
7. Final presentation and discussion

* Students will be allocated to 1 laboratory according to the students' academic ability and eagerness. Self-learning (approximately 180 minutes/week) will be required for preparation and review works.

[Active learning]

Students are encouraged to join the laboratory activities.

履修上の注意/Notes

Attendance of the lab work in the same laboratory is recommended.
Contact: AIMS Steering Committee (Dr. Nobuo SAKAGAMI) is anytime available through MS TEAMS.

情報端末の活用

Laptop PC

成績評価基準/Evaluation criteria

A+ (90-100): able to suggest an action plan for sustainable agriculture
A (80-89): able to assess the process for sustainable agriculture
B (70-79): able to discuss what is sustainable agriculture
C (60-69): obtain basic knowledge on sustainable agriculture
D (0-59): unable to understand sustainable agriculture

成績の評価方法/Grading

Learning results are evaluated by a presentation and defense (discussion) on the assigned subjects (not evaluated by final examination).

教科書/Textbook(s)

参考書/Reference Book(s)

関連するディプロマ・ポリシーの要素・能力

世界の俯瞰的理解	○
専門分野の学力	◎
課題解決能力	◎
コミュニケーション力	○
実践的英語力	△
社会人としての姿勢	○
地域活性化志向	○

アクティブ・ラーニング型科目

○

PBL科目

○

地域志向科目

使用言語

英語

実務経験のある教員による授業科目

--

実践的教育から構成される授業科目

--

社会人リカレント教育（専門コース・カスタムコース）

授業科目提供	×	受講条件等	
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時間割コード	KZ4011	ナンバリング	KZ-SMI-332-AIM	科目分野	演習
開講曜日・時限	集中	単位数	1	日英区分	日本語
対象学生	S	対象年次	2年次～4年次		
開講年度	2022年度後期 共通教育（基盤・教養・教育学部以外の教職）				
科目名	地域サステイナビリティ学ゼミナール				
担当教員（ローマ字表記）	下村 勝孝（Katsunori SHIMOMURA）				
シラバス用備考	【後期】				

授業題目/Title

授業の概要/Course Overview

This course is designed to learn a variety of researches conducted in five fields (chemistry, biological sciences, earth science, physics and mathematics & informatics). The purpose of this course is to learn the technique and idea regarding the selected subject of research.

キーワード/Keyword(s)

Refer to the academic advisors' information at <https://www.sci.ibaraki.ac.jp/en/generalinfo/researchers/index.html>.

到達目標/Learning Objectives

Students can obtain the problem-solving capability about the issues related to the selected subject of research.

授業及び授業外の学修/Lesson plans & homework

1. Introduction of each laboratory (Guidance is held on the first day)
2. The seminar in the selected laboratory 1
3. The seminar in the selected laboratory 2
4. The seminar in the selected laboratory 3
5. The seminar in the selected laboratory 4
6. The seminar in the selected laboratory 5
7. Final presentation and discussion

* Students will be allocated to 1 laboratory according to the students' academic ability and eagerness. Self-learning (approximately 180 minutes/week) will be required for preparation and review works.

[Active learning]

Students are encouraged to join the laboratory activities.

履修上の注意/Notes

Attendance of the lab work in the same laboratory is recommended.
Contact: AIMS Steering Committee is anytime available through MS TEAMS.

情報端末の活用

Laptop PC

成績評価基準/Evaluation criteria

A+ (90-100): able to suggest an action plan for sustainable development

A (80-89): able to assess the process for sustainable development

B (70-79): able to discuss what is sustainable development

C (60-69): obtain basic knowledge on sustainable development

D (0-59): unable to understand sustainable development

成績の評価方法/Grading

Learning results are evaluated by a presentation and defense (discussion) on the assigned subjects (not evaluated by final examination).

教科書/Textbook(s)

参考書/Reference Book(s)

関連するディプロマ・ポリシーの要素・能力

世界の俯瞰的理解	○
専門分野の学力	◎
課題解決能力	◎
コミュニケーション力	○
実践的英語力	△
社会人としての姿勢	○
地域活性化志向	○

アクティブ・ラーニング型科目

○

PBL科目

○

地域志向科目

使用言語

英語

実務経験のある教員による授業科目

--

実践的教育から構成される授業科目

--

社会人リカレント教育（専門コース・カスタムコース）

授業科目提供	×	受講条件等	
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時間割コード	KZ4012	ナンバリング	KZ-SMI-332-AIM	科目分野	実験実習
開講曜日・時限	集中	単位数	2	日英区分	日本語
対象学生	A	対象年次	2年次～4年次		
開講年度	2022年度後期 共通教育（基盤・教養・教育学部以外の教職）				
科目名	地域サステイナビリティ学ラボワーク				
担当教員（ローマ字表記）	坂上 伸生				
シラバス用備考	【後期】				

授業題目/Title

授業の概要/Course Overview

This course is designed to learn a variety of researches conducted at the current topics of "Biological Production Science, Bioresource Science and Environmental Science". The purpose of this course is to learn the technique and idea regarding the selected subject of research.

キーワード/Keyword(s)

Refer to the academic advisors' information at <http://ddp.agr.ibaraki.ac.jp/english/researchers/researcher.html>.

到達目標/Learning Objectives

Students can obtain the problem-solving capability about the issues related to the selected subject of research.

授業及び授業外の学修/Lesson plans & homework

1. Introduction of each laboratory (Guidance is held on the first day)
2. The lab work in the selected laboratory 1
3. The lab work in the selected laboratory 2
4. The lab work in the selected laboratory 3
5. The lab work in the selected laboratory 4
6. The lab work in the selected laboratory 5
7. The lab work in the selected laboratory 6
8. The lab work in the selected laboratory 7
9. The lab work in the selected laboratory 8
10. The lab work in the selected laboratory 9
11. The lab work in the selected laboratory 10
12. The lab work in the selected laboratory 11
13. The lab work in the selected laboratory 12
14. The lab work in the selected laboratory 13
15. Final presentation and discussion

* Students will be allocated to 1 laboratory according to the students' academic ability and eagerness. Self-learning (approximately 180 minutes/week) will be required for preparation and review works.

[Active learning]

Students are encouraged to join the laboratory activities.

履修上の注意/Notes

Attendance of the seminar in the same laboratory is recommended.
Contact: AIMS Steering Committee (Dr. Nobuo SAKAGAMI) is anytime available through MS TEAMS.

情報端末の活用

Laptop PC

成績評価基準/Evaluation criteria

A+ (90-100): able to suggest an action plan for sustainable agriculture
A (80-89): able to assess the process for sustainable agriculture
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C (60-69): obtain basic knowledge on sustainable agriculture
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成績の評価方法/Grading

Learning results are evaluated by a presentation and defense (discussion) on the assigned subjects (not evaluated by final examination).

教科書/Textbook(s)

参考書/Reference Book(s)

関連するディプロマ・ポリシーの要素・能力

世界の俯瞰的理解	○
専門分野の学力	◎
課題解決能力	◎
コミュニケーション力	○
実践的英語力	△
社会人としての姿勢	○
地域活性化志向	○

アクティブ・ラーニング型科目

○

PBL科目

○

地域志向科目

--

使用言語

英語

実務経験のある教員による授業科目

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実践的教育から構成される授業科目

--

社会人リカレント教育（専門コース・カスタムコース）

授業科目提供	×	受講条件等	
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時間割コード	KZ4013	ナンバリング	KZ-SMI-332-AIM	科目分野	実験実習
開講曜日・時限	集中	単位数	2	日英区分	日本語
対象学生	S	対象年次	2年次～4年次		
開講年度	2022年度後期 共通教育（基盤・教養・教育学部以外の教職）				
科目名	地域サステイナビリティ学ラボワーク				
担当教員（ローマ字表記）	下村 勝孝（Katsunori SHIMOMURA）				
シラバス用備考	【後期】				

授業題目/Title

授業の概要/Course Overview

This course is designed to learn a variety of researches conducted in five fields (chemistry, biological sciences, earth science, physics and mathematics & informatics). The purpose of this course is to learn the technique and idea regarding the selected subject of research.

キーワード/Keyword(s)

Refer to the academic advisors' information at <https://www.sci.ibaraki.ac.jp/en/generalinfo/researchers/index.html>.

到達目標/Learning Objectives

Students can obtain the problem-solving capability about the issues related to the selected subject of research.

授業及び授業外の学修/Lesson plans & homework

1. Introduction of each laboratory (Guidance is held on the first day)
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 5. The lab work in the selected laboratory 4
 6. The lab work in the selected laboratory 5
 7. The lab work in the selected laboratory 6
 8. The lab work in the selected laboratory 7
 9. The lab work in the selected laboratory 8
 10. The lab work in the selected laboratory 9
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 15. Final presentation and discussion
- * Students will be allocated to 1 laboratory according to the students' academic ability and eagerness. Self-learning (approximately 180 minutes/week) will be required for preparation and review works.
- [Active learning]
- Students are encouraged to join the laboratory activities.

履修上の注意/Notes

Attendance of the seminar in the same laboratory is recommended.
Contact: AIMS Steering Committee is anytime available through MS TEAMS.

情報端末の活用

Laptop PC

成績評価基準/Evaluation criteria

A+ (90-100): able to suggest an action plan for sustainable development
A (80-89): able to assess the process for sustainable development
B (70-79): able to discuss what is sustainable development
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D (0-59): unable to understand sustainable development

成績の評価方法/Grading

Learning results are evaluated by a presentation and defense (discussion) on the assigned subjects (not evaluated by final examination).

教科書/Textbook(s)

参考書/Reference Book(s)

関連するディプロマ・ポリシーの要素・能力

世界の俯瞰的理解	○
専門分野の学力	◎
課題解決能力	◎
コミュニケーション力	○
実践的英語力	△
社会人としての姿勢	○
地域活性化志向	○

アクティブ・ラーニング型科目

○

PBL科目

○

地域志向科目

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使用言語

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実践的教育から構成される授業科目

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社会人リカレント教育（専門コース・カスタムコース）

授業科目提供	×	受講条件等	
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