

頁	追記・修正後の内容	現在の内容																																																																										
60,61	<p>Division of Information and Electronic Engineering/Course of Electrical and Electronic Engineering</p> <p>(…)</p> <p>Remarks</p> <p>1 Thirty-two or more credits should be obtained (consisting of 10 credits in compulsory subjects and 22 credits or more in elective subjects).</p> <p>2 The requirements for choosing Elective subjects are:</p> <p>(1) Eighteen or more credits should be obtained in the fundamental and field course subjects as well as from the common major subjects offered in your course (including 2 credits in information technology subjects).</p> <p>(2) For subjects studied in other courses, students must acquire a minimum of 2 credits from the following options:</p> <ul style="list-style-type: none"> • Course subjects offered in other courses in your Major. • Common subjects offered in other Majors (excluding IT subjects). • Course subjects offered in other Majors. • Fundamental subjects offered in Rare Earth Materials Education Program. • Fundamental subjects offered in Semiconductor Engineering Education Program. • Subjects studied at affiliated universities that are included in the credit transfer system. <p>(3) Two or more credits should be obtained in the minor subjects offered in all courses.</p> <p>Remarks (only for F. S)</p> <p>1 Thirty-two or more credits should be obtained (consisting of 6 credits in compulsory subjects and 26 credits or more in elective subjects).</p> <p>2 The requirements for choosing Elective subjects are:</p> <p>(1) Sixteen or more credits should be obtained in the fundamental and field course subjects in Electrical and Electronic Engineering, and System Informatics.</p> <p>(2) For elective subjects offered as common major subjects in your course, 4/6 or more credits should be obtained (including 2 credits in Information Technology subjects).</p> <p>(3) For subjects studied in other courses, students must acquire a minimum of 2 credits from the following options [limited to courses not included in 2(1)]:</p> <ul style="list-style-type: none"> • Course subjects offered in other courses in your Major. • Common subjects offered in other Majors (excluding IT subjects). • Course subjects offered in other Majors. • Fundamental subjects offered in Rare Earth Materials Education Program. • Fundamental subjects offered in Semiconductor Engineering Education Program. • Subjects studied at affiliated universities that are included in the credit transfer system. <p>(4) Two or more credits should be obtained in the minor subjects offered in all courses.</p> <p>(…)</p>	<p>Division of Information and Electronic Engineering/Course of Electrical and Electronic Engineering</p> <p>(…)</p> <p>Remarks</p> <p>1 Thirty-two or more credits should be obtained (consisting of 10 credits in compulsory subjects and 22 credits or more in elective subjects).</p> <p>2 The requirements for choosing Elective subjects are:</p> <p>(1) Eighteen or more credits should be obtained in the fundamental and field course subjects as well as from the common major subjects offered in your course (including 2 credits in information technology subjects).</p> <p>(2) For subjects studied in other courses, students must acquire a minimum of 2 credits from the following options:</p> <ul style="list-style-type: none"> • Course subjects offered in other courses in your Major. • Common subjects offered in other Majors (excluding IT subjects). • Course subjects offered in other Majors. • Fundamental subjects offered in Rare Earth Materials Education Program. <p>• Subjects studied at affiliated universities that are included in the credit transfer system.</p> <p>(3) Two or more credits should be obtained in the minor subjects offered in all courses.</p> <p>Remarks (only for F. S)</p> <p>1 Thirty-two or more credits should be obtained (consisting of 6 credits in compulsory subjects and 26 credits or more in elective subjects).</p> <p>2 The requirements for choosing Elective subjects are:</p> <p>(1) Sixteen or more credits should be obtained in the fundamental and field course subjects in Electrical and Electronic Engineering, and System Informatics.</p> <p>(2) For elective subjects offered as common major subjects in your course, 4/6 or more credits should be obtained (including 2 credits in Information Technology subjects).</p> <p>(3) For subjects studied in other courses, students must acquire a minimum of 2 credits from the following options [limited to courses not included in 2(1)]:</p> <ul style="list-style-type: none"> • Course subjects offered in other courses in your Major. • Common subjects offered in other Majors (excluding IT subjects). • Course subjects offered in other Majors. • Fundamental subjects offered in Rare Earth Materials Education Program. <p>• Subjects studied at affiliated universities that are included in the credit transfer system.</p> <p>(4) Two or more credits should be obtained in the minor subjects offered in all courses.</p> <p>(…)</p>																																																																										
62,63	<p>Division of Information and Electronic Engineering/Course of Cross-Disciplinary Informatics</p> <p>(…)</p> <p>Remarks</p> <p>1 Thirty-two or more credits should be obtained (consisting of 9 credits in compulsory subjects and 23 credits or more in elective subjects).</p> <p>2 The requirements for choosing Elective subjects are:</p> <p>(1) Students must earn at least 14 credits from their own major course and all major common subjects. However, if four or more credits are earned by taking Information Science Advanced Seminar A-D, one or more seminar credits should be obtained from the PBL and Collaboration subjects. In addition, if the credits earned by taking Basic MOT Theory and Business Planning Theory are used as the credits for completion of PBL and Social Collaboration subjects, then these credits cannot be used again for completing the subjects mentioned in (4).</p> <p>(2) Five or more credits should be obtained in the Information and Electronic Engineering course subjects as well as from the major subjects offered in all divisions (excluding subjects in their own major course).</p> <p>(3) For subjects studied in other courses, two or more credits should be obtained from the following options:</p> <ul style="list-style-type: none"> • Course subjects offered in other courses in your Major. • Common subjects offered in other Majors (excluding IT subjects). • Course subjects offered in other Majors. • Fundamental subjects offered in Rare Earth Materials Education Program. • Fundamental subjects offered in Semiconductor Engineering Education Program. • Subjects studied at affiliated universities that are included in the credit transfer system. <p>(4) Two or more credits should be obtained in the minor subjects offered in all courses.</p> <p>Remarks (only for F. S)</p> <p>1 Thirty-two or more credits should be obtained (consisting of 6 credits in compulsory subjects and 26 credits or more in elective subjects).</p> <p>2 The requirements for choosing Elective subjects are:</p> <p>(1) Six or more credits should be obtained in the Fundamental subjects in the course of Cross-Disciplinary Informatics.</p> <p>(2) Nine or more credits should be obtained in the Specialized Information Technology subjects in the course of Cross-Disciplinary Informatics, or in subjects offered in other courses in any division.</p> <p>(3) For elective subjects offered as common major subjects in your course, 6 or more credits should be obtained (including 2 credits in Information Technology subjects).</p> <p>(4) Five or more credits should be obtained in the minor subjects offered in all courses.</p> <p>(…)</p>	<p>Division of Information and Electronic Engineering/Course of Cross-Disciplinary Informatics</p> <p>(…)</p> <p>Remarks</p> <p>1 Thirty-two or more credits should be obtained (consisting of 9 credits in compulsory subjects and 23 credits or more in elective subjects).</p> <p>2 The requirements for choosing Elective subjects are:</p> <p>(1) Students must earn at least 14 credits from their own major course and all major common subjects. However, if four or more credits are earned by taking Information Science Advanced Seminar A-D, one or more seminar credits should be obtained from the PBL and Collaboration subjects. In addition, if the credits earned by taking Basic MOT Theory and Business Planning Theory are used as the credits for completion of PBL and Social Collaboration subjects, then these credits cannot be used again for completing the subjects mentioned in (4).</p> <p>(2) Five or more credits should be obtained in the Information and Electronic Engineering course subjects as well as from the major subjects offered in all divisions (excluding subjects in their own major course).</p> <p>(3) For subjects studied in other courses, two or more credits should be obtained from the following options:</p> <ul style="list-style-type: none"> • Course subjects offered in other courses in your Major. • Common subjects offered in other Majors (excluding IT subjects). • Course subjects offered in other Majors. • Fundamental subjects offered in Rare Earth Materials Education Program. <p>• Subjects studied at affiliated universities that are included in the credit transfer system.</p> <p>(4) Two or more credits should be obtained in the minor subjects offered in all courses.</p> <p>Remarks (only for F. S)</p> <p>1 Thirty-two or more credits should be obtained (consisting of 6 credits in compulsory subjects and 26 credits or more in elective subjects).</p> <p>2 The requirements for choosing Elective subjects are:</p> <p>(1) Six or more credits should be obtained in the Fundamental subjects in the course of Cross-Disciplinary Informatics.</p> <p>(2) Nine or more credits should be obtained in the Specialized Information Technology subjects in the course of Cross-Disciplinary Informatics, or in subjects offered in other courses in any division.</p> <p>(3) For elective subjects offered as common major subjects in your course, 6 or more credits should be obtained (including 2 credits in Information Technology subjects).</p> <p>(4) Five or more credits should be obtained in the minor subjects offered in all courses.</p> <p>(…)</p>																																																																										
64	<p>Minor Subjects</p> <table border="1" data-bbox="255 1220 790 1422"> <thead> <tr> <th rowspan="2">Division</th> <th rowspan="2">Subject Name</th> <th colspan="2">No. of credits</th> <th colspan="4">No. of classes per week</th> <th rowspan="2">Who may take this subject?</th> <th rowspan="2">Remarks</th> </tr> <tr> <th>Compulsory</th> <th>Elective</th> <th colspan="2">1st year student</th> <th colspan="2">2nd year student</th> </tr> <tr> <th></th> <th></th> <th>1st</th> <th>2nd</th> <th>1st</th> <th>2nd</th> <th>1st</th> <th>2nd</th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>1Q</td> <td>2Q</td> <td>3Q</td> <td>4Q</td> <td>1Q</td> <td>2Q</td> <td>3Q</td> <td>4Q</td> <td></td> </tr> </tbody> </table> <p>For subjects studied in other courses, students must acquire a minimum of 2 credits from the following options:</p> <ul style="list-style-type: none"> • Course subjects offered in other courses in your Major. • Common subjects offered in other Majors (excluding IT subjects). • Course subjects offered in other Majors. • Fundamental subjects offered in Rare Earth Materials Education Program. • Fundamental subjects offered in Semiconductor Engineering Education Program. • Subjects studied at affiliated universities that are included in the credit transfer system. <p>(…)</p> <p>Remarks</p> <p>For subjects studied in other courses, students must acquire a minimum of 2 credits from the following options:</p> <ul style="list-style-type: none"> • Course subjects offered in other courses in your Major. • Common subjects offered in other Majors (excluding IT subjects). • Course subjects offered in other Majors. • Fundamental subjects offered in Rare Earth Materials Education Program. • Fundamental subjects offered in Semiconductor Engineering Education Program. • Subjects studied at affiliated universities that are included in the credit transfer system. <p>(…)</p>	Division	Subject Name	No. of credits		No. of classes per week				Who may take this subject?	Remarks	Compulsory	Elective	1st year student		2nd year student				1st	2nd	1st	2nd	1st	2nd					1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q		<p>Minor Subjects</p> <table border="1" data-bbox="869 1220 1396 1422"> <thead> <tr> <th rowspan="2">Division</th> <th rowspan="2">Subject Name</th> <th colspan="2">No. of credits</th> <th colspan="4">No. of classes per week</th> <th rowspan="2">Who may take this subject?</th> <th rowspan="2">Remarks</th> </tr> <tr> <th>Compulsory</th> <th>Elective</th> <th colspan="2">1st year student</th> <th colspan="2">2nd year student</th> </tr> <tr> <th></th> <th></th> <th>1st</th> <th>2nd</th> <th>1st</th> <th>2nd</th> <th>1st</th> <th>2nd</th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>1Q</td> <td>2Q</td> <td>3Q</td> <td>4Q</td> <td>1Q</td> <td>2Q</td> <td>3Q</td> <td>4Q</td> <td></td> </tr> </tbody> </table> <p>For subjects studied in other courses, students must acquire a minimum of 2 credits from the following options:</p> <ul style="list-style-type: none"> • Course subjects offered in other courses in your Major. • Common subjects offered in other Majors (excluding IT subjects). • Course subjects offered in other Majors. • Fundamental subjects offered in Rare Earth Materials Education Program. • Fundamental subjects offered in Semiconductor Engineering Education Program. • Subjects studied at affiliated universities that are included in the credit transfer system. <p>(…)</p> <p>Remarks</p> <p>For subjects studied in other courses, students must acquire a minimum of 2 credits from the following options:</p> <ul style="list-style-type: none"> • Course subjects offered in other courses in your Major. • Common subjects offered in other Majors (excluding IT subjects). • Course subjects offered in other Majors. • Fundamental subjects offered in Rare Earth Materials Education Program. <p>• Subjects studied at affiliated universities that are included in the credit transfer system.</p> <p>(…)</p>	Division	Subject Name	No. of credits		No. of classes per week				Who may take this subject?	Remarks	Compulsory	Elective	1st year student		2nd year student				1st	2nd	1st	2nd	1st	2nd					1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
Division	Subject Name			No. of credits		No. of classes per week						Who may take this subject?	Remarks																																																															
		Compulsory	Elective	1st year student		2nd year student																																																																						
		1st	2nd	1st	2nd	1st	2nd																																																																					
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q																																																																			
Division	Subject Name	No. of credits		No. of classes per week				Who may take this subject?	Remarks																																																																			
		Compulsory	Elective	1st year student		2nd year student																																																																						
		1st	2nd	1st	2nd	1st	2nd																																																																					
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q																																																																			

【新規追加】

半導体工学教育プログラム(博士前期課程)

本学の博士前期課程に「半導体工学教育プログラム」を開設します。本プログラムは、半導体工学に関するプログラム独自の基盤科目、既存のコース科目、他大学が提供するプログラム共有科目から構成されており、北海道をはじめとした半導体産業を支える人材を輩出することを目的としています。プログラム修了要件を満たした学生には、大学院修了時に希望により修了証を交付します。

区分	授業科目名	単位数		開講年次	備考	つくる人材	つかう人材	つなぐ人材	
		必修	選択						
基盤科目	半導体概論	1		1・2	1単位修得		○	○	
半導体プログラム共有科目(他大学の単位互換科目)				1・2					
コース科目	化学生物工学コース	物理化学特論		2	1		○		
		材料科学特論B		2	1		○		
		無機材料化学特論		2	1		○		
		化学生物と情報		2	1		○	○	
	建築学コース	構造解析特論		2	1		○	○	
		建築情報学特論		2	1		○	○	
	土木工学コース	応用情報インフラ管理学		2	1		○	○	
	機械ロボット工学コース	知能ロボットシステム特論		1	1			○	
		機械ロボット工学各論		1	1		○	○	
		加工システム学特論		1	1			○	
		移動ロボット情報特論		1	1			○	○
		システム情報工学特論		1	1			○	○
	航空宇宙総合工学コース	航空宇宙情報通信工学特論		2	1			○	○
	物理物質科学コース	基礎物性特論B		1	1		○	○	
		基礎物性特論C		1	1		○	○	
		量子力学特論		1	1・2	西暦偶数年度開講		○	
		統計力学特論		1	1・2	西暦奇数年度開講		○	
		無機材料科学		1	1・2	西暦奇数年度開講		○	
		物理×情報特論A		1	1			○	○
	システム情報学コース	物理×情報特論B		1	1			○	○
		知能システム特論		2	1			○	○
		信号処理特論		2	1		○	○	
		情報科学特論		2	1			○	○
	電子電気工学コース	応用情報学特論		2	1			○	○
		電磁エネルギー工学特論		1	1			○	
		電力工学特論		1	1			○	
		制御工学特論		1	1		○	○	
		電子回路特論		1	1		○	○	
		通信工学特論		1	1		○	○	
		電子デバイス工学特論		1	1		○	○	○
		半導体工学特論		1	1		○	○	○
		量子工学特論		2	1		○	○	
光エレクトロニクス特論			2	1			○		
集積回路工学特論			2	1		○	○	○	
情報信号処理特論			2	1			○	○	
情報先端技術特論			1	1・2			○	○	
共創情報学コース		知能システム特論		2	1			○	○
	イノベーション分析PBL		1	1・2			○	○	
	情報科学特論		2	1			○	○	
	応用情報学特論		2	1			○	○	

備考

- 1 半導体工学教育プログラムの修了要件:必修科目1単位、選択科目4単位以上、合計5単位以上を修得すること。
- 2 本プログラムの選択科目は、単位修得により本プログラムの修了要件単位数と同時に各専攻が定める修了要件単位数に充当することができる。
- 3 半導体工学教育プログラムは、博士後期課程学生も履修することができる。
- 4 半導体工学教育プログラムの修了者には、修了証を授与する。

【プログラムで身に付ける要素】

【先端半導体プロセス創造力】

半導体をつくる人材

半導体作成に関わる材料やプロセスを理解し、それらを組み合わせて、デバイスや集積回路の設計・試作・評価が

【ユースケース開拓力】

半導体をつかう人材

さまざまな半導体の機能・能力を理解し、半導体による問題解決、社会的価値発見・評価ができる

【半導体俯瞰統合力】

半導体をつなぐ人材

半導体全体を把握し、半導体の新しいユースケースにつなぐことができる