

**These degree programme and examination regulations have been worded carefully to be up to date; however, errors cannot be completely excluded. The official German text available at the Examinations Office is the version that is legally binding.**

**Note:** Students who started their studies before the latest amendment came into effect are requested to also comply with previous amendments and the respective transitory provisions.

**Degree Programme and Examination Regulations for the  
Bachelor's Degree Programme in  
International Production Engineering and Management  
at the Faculty of Engineering at  
Friedrich-Alexander-Universität Erlangen-Nürnberg  
– FPOIP –  
Dated 14 July 2010**

amended by statutes of  
9 March 2011  
5 August 2011  
30 July 2012  
31 July 2012  
28 July 2014  
3 December 2019

Based on Section 13 (1)(2), Section 43 (4) and (5), Section 58 (1) and Section 61 (2)(1) of the Bavarian Higher Education Act (Bayerisches Hochschulgesetz, BayHSchG), FAU enacts the following degree programme and examination regulations:

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## Part I: General Provisions

### Section 35 Scope

The degree programme and examination regulations for the Bachelor's degree programme in International Production Engineering and Management complement the current version of the General Examination Regulations for the Bachelor's and Master's degree programmes at the Faculty of Engineering of FAU – **ABMPO/TechFak** – from 18 September 2007.

### Section 36 Bachelor's Degree Programme, Mobility Window, Start of Studies, Related Degree Programmes

(1) Students of the Bachelor's degree programme in International Production Engineering and Management acquire skills in the core subjects of engineering and business studies, engineering mathematics and in a selection of areas from mechanical engineering/international production engineering (technical mechanics, construction/development, laser technology, forming technology, factory automation and production systems, efficient use of energy and resources, metrology and quality management, polymer technology) and in areas of international production management (including industrial management, corporate sustainability management, innovation and value creation).

(2) <sup>1</sup>The Bachelor's degree programme covers the modules set forth in **Appendix 1a** (for students starting in the winter semester) or **Appendix 1b** (for students starting in the summer semester). <sup>2</sup>The degree programme is split into the orientation phase (Grundlagen- und Orientierungsphase) and the Bachelor's phase. <sup>3</sup>The orientation phase consists of modules from the first two semesters. <sup>4</sup>The Bachelor's phase consists of the further modules until the end of the regular duration of study. <sup>5</sup>The fifth and sixth semesters are mobility windows for spending time abroad, for example studying abroad, practical training abroad (B 22), or writing the Bachelor's thesis abroad (B 23). <sup>6</sup>In particular, modules B 16, B 17 and B 20 – B 23 are particularly suitable for taking whilst spending a semester abroad.

(3) <sup>1</sup>Students can commence the degree programme in the winter semester, and generally also in the summer semester. <sup>2</sup>Any exceptions are decided by the Degree Programme Committee.

(4) <sup>1</sup>The following Bachelor's degree programmes are considered subject-related degree programmes within the meaning of Section 24 (1)(2)(2) **ABMPO/TechFak**

1. Mechanical Engineering
2. Mechatronics
3. Industrial Engineering
4. Technical Vocational Education and Training.

<sup>2</sup>In justified cases, the Degree Programme Committee may allow exceptions from sentence 1.

**Section 37** (will be included by way of amendment statute)

## Part II: Special Provisions

### 1. Bachelor's Examination

#### **Section 38 Scope of the Grundlagen- und Orientierungsprüfung**

The Grundlagen- und Orientierungsprüfung (GOP) includes the modules marked 'GOP' in **Appendix 1a** or **1b**.

#### **Section 39 Scope of Bachelor's Examination, International Elective Modules, Elective Modules, General Key Qualifications, Practical Training**

(1) <sup>1</sup>The Bachelor's examination comprises the modules stated in **Appendix 1a** or **1b**.

<sup>2</sup>The **Appendices** also state the type and scope of examinations, unless stipulated otherwise in the following paragraphs.

(2) <sup>1</sup>The international elective modules (B 16 and B 20) are stated in the catalogue approved by the Degree Programme Committee and are announced in accordance with local practice in the module handbook before the lecture period begins. <sup>2</sup>The learning outcome of this module is to allow students to gain a more in-depth understanding of areas they are studying pursuant to Section 36 (1). <sup>3</sup>The second learning outcome has a research focus, with students learning methods of research applicable to their subject and exploring their subject in more depth to Bachelor's degree level. <sup>4</sup>Thirdly, the element of choice allows students to tailor their profile in view of their career plans. <sup>5</sup>The type and scope of the examinations in the international elective modules are dependent on the skills taught in the relevant module according to sentences 2 to 4 and the module handbook. <sup>6</sup>The examinations either take the form of a written examination (60, 90 or 120 min.), an oral examination (approx. 20-30 min.) or a seminar achievement pursuant to Section 6 (3) **ABMPO/TechFak**. <sup>7</sup>Other examination forms are possible if so decided by the Degree Programme Committee. <sup>8</sup>As a rule, the modules account for 5 ECTS credits, a module consists of a lecture and a practical class or an advanced seminar, each worth 2 semester hours (SWS). <sup>9</sup>Any exceptions to the size of the module and combinations of teaching units are detailed in the module handbook.

(3) <sup>1</sup>The Degree Programme Committee can allow other international elective modules upon request, in particular those taken within the context of studying abroad. <sup>2</sup>If other modules are permitted, provisions other than those set forth in (2) may be stipulated.

(4) <sup>1</sup>The elective modules (B 17), the foreign languages and general key qualifications (B 21) and the laboratory course (B 12) each have the minimum number of ECTS credits stated in column 8 in **Appendix 1a** or **1b**. They should fit into the context of and complement the chosen international elective modules. <sup>2</sup>Paragraph 2 (2) to (4) shall apply accordingly with respect to learning outcomes. <sup>3</sup>The modules shall be taken from the catalogue recommended by the Degree Programme Committee, which also stipulates the form of the relevant examinations. <sup>4</sup>Modules not listed in the catalogue must be approved beforehand by the Degree Programme Committee. <sup>5</sup>Paragraph 2 shall apply accordingly with respect to examinations and the scope of the elective modules. <sup>6</sup>As a rule, the foreign languages and general key qualifications consist of an advanced seminar totalling 6 semester hours (SWS); any exceptions are detailed in the module handbook.

(5) The practical training (B 22) shall be completed in accordance with the general

guidelines for practical training in Bachelor's and Master's degree programmes in mechanical engineering, industrial engineering and management, and international production engineering and management, and must be approved by the Internship Office.

**Section 40** (will be included by way of amendment statute)

### **Section 41 Requirements for Admission to Bachelor's Thesis**

<sup>1</sup>The fifth or sixth semester is recommended for completing the Bachelor's thesis. <sup>2</sup>Admission to the Bachelor's thesis shall be governed by Section 27 (3)(2) **ABMPO/TechFak**.

### **Section 42 Bachelor's Thesis**

(1) <sup>1</sup>The Bachelor's thesis is intended to enable students to learn to solve problems relating to the subject independently. <sup>2</sup>Requirements for the thesis shall be such that it can be completed within approximately 360 hours.

(2) <sup>1</sup>The thesis shall be supervised by a lecturer from the Department of Mechanical Engineering or by a research associate requested to do so by the lecturer; Sections 9 (1) and 27 (2)(2) **ABMPO/TechFak** shall not be affected. <sup>2</sup>The Bachelor's thesis shall be written in English. <sup>3</sup>In consultation with the supervising lecturer pursuant to sentence 1, another language may also be agreed. <sup>4</sup>If the Bachelor's thesis is written at a foreign university, the thesis shall be supervised jointly by a supervisor pursuant to sentence 1 and a lecturer from the foreign university.

(3) <sup>1</sup>The results of the Bachelor's thesis shall be presented in a presentation lasting approximately 20 minutes followed by a discussion within the context of an advanced seminar. <sup>2</sup>The date of the presentation shall be determined by the supervisor either during the final phase of work on the Bachelor's thesis or once the thesis has been submitted, and giving at least one week's notice.

### **Section 43 Evaluation of Achievements for the Bachelor's Degree Programme**

(1) The Bachelor's degree programme shall have been completed successfully once all modules stipulated in **Appendix 1a** or **Appendix 1b** have been passed.

(2) <sup>1</sup>When determining the overall grade for the module groups in the international elective modules B 16 and B 20, the grades for all parts of the examinations shall be taken into account according to the weighting of the ECTS credits allocated to each part of the examination. <sup>2</sup>In the event that the sum of the ECTS credits allocated to B 16 or B 20 exceed the value of 'total ECTS credits' stated in column 8 in **Appendix 1a** or **1b**, an interim grade shall be determined in accordance with the ECTS weighting of the individual modules and this shall be counted towards the final grade with the ECTS credits stated in column 8. <sup>3</sup>Sentences 1 and 2 shall apply accordingly to the elective module B 17.

(3) When determining the module grade for module B 23 (Bachelor's thesis), the grades for the Bachelor's thesis and the advanced seminar on the Bachelor's thesis shall be taken into account according to the weighting of their ECTS credits pursuant to **Appendix 1a** or **1b**.

## **2. Master's Examination** (will be included by way of amendment statute)

### **Part III: Concluding Provisions**

#### **Section 44 Legal Validity**

(1) These examination regulations shall come into effect on 1 October 2010.

(2) <sup>1</sup>The sixth amendment statute shall come into effect on the day after its publication. <sup>2</sup>It shall apply to all students starting a degree programme from the summer semester 2020 onwards. <sup>3</sup>Examinations according to the previously valid examination regulations shall be offered for the last time in winter semester 2024/2025. <sup>4</sup>From the date stated in sentence 3, those students who are affected by the examination regulations becoming invalid shall take their examinations in accordance with the currently valid version of the degree programme and examination regulations. <sup>5</sup>Notwithstanding sentences 2 to 4, the changes to module B 3 pursuant to **Appendix 1a** or **1b** shall apply to all examinations taken from summer semester 2020.

## Bachelor's Degree Programme in International Production Engineering and Management

### Appendix 1a: Degree Programme structure for the Bachelor's Degree in International Production Engineering and Management (commencing in the winter semester)

C1	Column 2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	Column 16
No.	Module	GOP/K	SWS (semester hours)				Total ECTS credits	1. sem	2. sem	3. sem	4. sem	5. sem	6. sem	Examination type	Examination form
			L	T	P	AS		WS	SS	WS	SS	WS	SS		
							ECTS credits								
<b>Foundation modules</b>							<b>67.5</b>						Mobility window		
B 1	Mathematics for IP 1 <sup>1)</sup> Tutorial	GOP	4				<b>7.5</b>	7.5						EA + CA	Written examination 90 min + tutorial achievement
B 2	Statics and mechanics of materials	GOP	3	2	2		<b>7.5</b>	7.5						EA	Written examination 90 min
B 3	Materials science	GOP	3	1			<b>5</b>	5						EA	Written examination 90/120 min <sup>2)</sup>
B 4	Business administration for engineers	GOP/K	2	2			<b>5</b>		5					EA	Written examination 60 min
B 5	Mathematics for IP 2 <sup>1)</sup> Tutorial		4				<b>7.5</b>		7.5					EA + CA	Written examination 90 min + tutorial achievement
B 6	Dynamics of rigid bodies		3	2	2		<b>7.5</b>			7.5				EA	Written examination 90 min
B7a	Engineering drawing I				4		<b>5</b>	2.5						CA + CA	Practical achievement (exercises on paper) + Practical achievement (computer exercises)
	Engineering drawing II				2			2.5							
B7b	Foundations of product development Practical: Engineering design	K	4	2			<b>10</b>			10				EA + CA	Written examination 120 min + Practical achievement
B 8	Foundations of computer science Tutorial		3 <sup>3)</sup>				<b>7.5</b>	7.5						see FPO INF	
B 9	Foundations of electrical engineering		2	2	2		<b>5</b>				5			EA	Written examination 90 min
<b>International Production Engineering</b>							<b>50</b>								
B 10	Foundations of metrology	K	2	2			<b>5</b>				5			EA	Written examination 60 min
B 11	Production Technology 1 + 2	K	4				<b>10</b>	2.5	2.5					EA	Written examination 120 min
	Exercises in Production Technology (with training in technical english)			4				2.5	2.5						
B 12	Optics and optical technologies Laboratory course		2				<b>5</b>			2.5				EA + CA	Written examination 60 min + tutorial achievement
B 13	Metal forming		2	2			<b>5</b>				5			EA	Written examination 120 min
B 14	Polymer technology		2	2			<b>5</b>				5			EA	Written examination 120 min
B 15	Automated manufacturing systems	K	2	2			<b>5</b>			5				EA	Written examination 120 min
B 16	International elective modules		3 <sup>4)</sup>	3 <sup>4)</sup>		2 <sup>4)</sup>	<b>10</b>					10		EA	5)
B 17	Elective modules		2	2			<b>5</b>					5			6)

C1	Column 2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	Column 16
No.	Module	GOP/K	SWS (semester hours)				Total ECTS credits	1. sem	2. sem	3. sem	4. sem	5. sem	6. sem	Examination type	Examination form
			L	T	P	AS		WS	SS	WS	SS	WS	SS	EA/CA	
								ECTS credits	ECTS credits	ECTS credits	ECTS credits	ECTS credits			
	<b>International Production Management</b>						<b>27.5</b>								
B 18	Quality management Advanced seminar: International and sustainable production	GOP/K K	2	2			<b>7.5</b>		5					EA + EA	Written examination 120 min + 5)
B 19	Production systems	K	2	2			<b>5</b>				5			EA	Written examination 120 min
B 20	International elective modules / Mathematics for IP 3 <sup>7)</sup>		5 <sup>4)</sup>	5 <sup>4)</sup>		2 <sup>4)</sup>	<b>15</b>					15		EA	5)
	<b>Key qualifications and Bachelor's thesis</b>						<b>35</b>								
B 21a	Foreign languages and general key qualifications I					4	<b>5</b>		5					CA	5)
B 21b	Foreign languages and general key qualifications II					2	<b>2.5</b>					2.5		CA	5)
B 22	Practical training (≥12 weeks)						<b>12.5</b>					12.5		CA	Practical achievement
B 23	Bachelor's thesis Advanced seminar on Bachelor's thesis					2	<b>15</b>					12	3	EA + EA	Bachelor's thesis + seminar achievement
	<b>Total</b>	<b>132</b>	<b>56</b>	<b>44</b>	<b>18</b>	<b>14</b>	<b>180</b>	<b>30</b>	<b>30</b>	<b>30</b>	<b>30</b>	<b>30</b>	<b>30</b>		
	GOP=Grundlagen- und Orientierungsprüfung:						<b>30</b>								
	K=Catalogue of modules required for admission to Master's degree programme						<b>47.5</b>								

GOP = Grundlagen- und Orientierungsprüfung (preliminary examination)

K = Subject-specific modules for admission to Master's degree programme

EA = examination achievement

CA = course achievement

Tutorial achievement = see Section 6 (3) **ABMPO/TechFak**

Practical achievement = see Section 6 (3) **ABMPO/TechFak**

Seminar achievement = see Section 6 (3) **ABMPO/TechFak**

- 1) The equivalence of the mathematics modules in the degree programmes of the Faculty of Engineering shall be announced according to local practice.
- 2) The scope of the examination depends on the specific manner in which the chosen module is taught in the respective semester and is stipulated in the module handbook.
- 3) Stated number of semester hours (SWS) applicable unless stipulated otherwise in **FPOINF**.
- 4) For further information on semester hours (SWS) see Section 39 (2).
- 5) see Section 39 (2).
- 6) see Section 39 (4). Notwithstanding Section 28 (2)(2) **ABMPO/TechFak** failed attempts will not be counted and in the event of a failure to pass there is no obligation to repeat the failed examination within the legally stipulated period pursuant to Section 28 (1)(5) **ABMPO/TechFak**.
- 7) The Degree Programme Committee determines which modules are offered and which must be taken in each semester.

**Appendix 1b:** Degree Programme structure of Bachelor's Degree Programme in International Production Engineering and Management (for starting to study in summer semester)

C1	Column 2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	Column 16
No.	Module	GOP/ K	SWS				Total ECTS cred- its	1. sem	2. sem	3. sem	4. sem	5. sem	6. sem	Exami- nation type  EA/CA	Examination form
			L	T	P	AS		SS	WS	SS	WS	SS	WS		
							ECTS cred- its	ECTS cred- its	ECTS cred- its	ECTS cred- its	ECTS cred- its	ECTS cred- its			
	<b>Foundation modules</b>	<b>GOP</b>					<b>67.5</b>						Mobility win- dow		
B 1	Mathematics for IP 1 <sup>1)</sup> Tutorial	GOP	4				7.5	1)	7.5					EA + CA	Written examination 90 min + tutorial achievement
B 2	Statics and mechanics of materials	GOP	3	2	2		7.5	7.5						EA	Written examination 90 min
B 3	Materials science	GOP	3	1			5		5					EA	Written examination 90/120 min <sup>2)</sup>
B 4	Business administration for engineers	K	2	2			5		2.5	2.5				EA	Written examination 60 min
B 5	Mathematics for IP 2 <sup>1)</sup> Tutorial		4				7.5	7.5	1)					EA + CA	Written examination 90 min + tutorial achievement
B 6	Dynamics of rigid bodies		3	2	2		7.5		7.5					EA	Written examination 90 min
B7a	Engineering drawing I				4		5		2.5					CA + CA	Practical achievement (exercises on paper) + Practical achieve- ment (computer exercises)
	Engineering drawing II				2					2.5					
B7b	Foundations of product development	K	4	2		10					10			EA + CA	Written examination 120 min + Practical achievement
	Practical: Engineering design				4										
B 8	Foundations of computer science		3 <sup>3)</sup>			7.5	7.5								see FPO INF
	Tutorial		3 <sup>3)</sup>												
B 9	Foundations of electrical engineering		2	2	2	5				5				EA	Written examination 90 min
	<b>International Production Engineering</b>					<b>50</b>									
B 10	Foundations of metrology	K	2	2		5						5		EA	Written examination 60 min
B 11	Production Technology 1 + 2	GOP/ K	4			10	2.5	2.5						EA	Written examination 120 min
	Exercises in production technology (with training in technical English)			4				2.5	2.5						
B 12	Optics and optical technologies		2			5				2.5			EA + CA	Written examination 60 min + tutorial achievement	
	Laboratory course			2						2.5					
B 13	Metal forming		2	2		5				5				EA	Written examination 120 min
B 14	Polymer technology		2	2		5				5				EA	Written examination 120 min
B 15	Automated manufacturing systems	K	2	2		5				5				EA	Written examination 120 min
B 16	International elective modules		3 <sup>4)</sup>	3 <sup>4)</sup>	2 <sup>4)</sup>	10						10		EA	5)
B 17	Elective modules		2	2		5						5			6)
	<b>International Production Management</b>					<b>27.5</b>									



C1	Column 2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	Column 16
No.	Module	GOP/ K	SWS				Total ECTS cred- its	1. sem	2. sem	3. sem	4. sem	5. sem	6. sem	Exami- nation type EA/CA	Examination form
			L	T	P	AS		SS	WS	SS	WS	SS	WS		
							ECTS cred- its	ECTS cred- its	ECTS cred- its	ECTS cred- its	ECTS cred- its	ECTS cred- its			
B 18	Quality management	K	2	2			7.5			5				EA	Written examination 120 min
	Advanced seminar: International and sustainable production					2				2.5					+ EA
B 19	Production systems	K	2	2			5			5				EA	Written examination 120 min
B 20	International elective modules / Mathematics for IP 3 <sup>7)</sup>		5 <sup>4)</sup>	5 <sup>4)</sup>		2 <sup>4)</sup>	15				7.5	7.5		EA	5)
<b>Key qualifications and Bachelor's thesis</b>							<b>35</b>								
B 21a	Foreign languages and general key qualifications I					4	5					2.5	2.5	CA	5)
B 21b	Foreign languages and general key qualifications II					2	2.5	2.5						CA	5)
B 22	Practical training (≥12 weeks)						12.5						12.5	CA	Practical achievement
B 23	Bachelor's thesis						15						12	EA + EA	Bachelor's thesis + seminar achievement
	Advanced seminar on Bachelor's thesis					2							3		
<b>Total</b>		<b>132</b>	<b>56</b>	<b>44</b>	<b>18</b>	<b>14</b>	<b>180</b>	30	30	30	30	30	30		
GOP=Grundlagen- und Orientierungsprüfung (preliminary examination):							<b>30</b>	1. sem	2. sem	3. sem	4. sem	5. sem	6. sem		
K=Catalogue of modules required for admission to Master's degree programme							<b>47.5</b>	SS	WS	SS	WS	SS	WS		

GOP = Grundlagen- und Orientierungsprüfung (preliminary examination)

K = Subject-specific modules for admission to Master's degree programme

EA = examination achievement

CA = course achievement

Tutorial achievement = see Section 6 (3) **ABMPO/TechFak**

Practical achievement = see Section 6 (3) **ABMPO/TechFak**

Seminar achievement = see Section 6 (3) **ABMPO/TechFak**

1) The equivalence of the mathematics modules in the degree programmes of the Faculty of Engineering shall be announced according to local practice. In consultation with the Degree Programme Committee, Mathematics for IP 1 may also be offered in the summer semester and Mathematics for IP 2 in the winter semester.

2) The scope of the examination depends on the specific manner in which the chosen module is taught in the respective semester and is stipulated in the module handbook.

3) Stated number of semester hours (SWS) applicable unless stipulated otherwise in **FPOINF**.

4) For further information on semester hours (SWS) see Section 39 (2).

5) see Section 39 (2).

6) see Section 39 (4). Notwithstanding Section 28 (2)(2) **ABMPO/TechFak** failed attempts will not be counted and in the event of a failure to pass there is no obligation to repeat the failed examination within the legally stipulated period pursuant to Section 28 (1)(5) **ABMPO/TechFak**.

7) The Degree Programme Committee determines which modules are offered and which must be taken in each semester.