

## **Detailed study schedule with changes according to faculty council decisions as well as detailed information**

Status: 18.04.2024

### **Content:**

#### General part

Assignment of compulsory and elective modules of the fields of study in detail

- Field of study Process Engineering
- Field of study Bioprocess Engineering
- Field of study Chemical Engineering
- Field of study Wood and Fibre Material Technology
- Field of study Food Engineering

#### Annex

#### Footnotes

## Curriculum

with the type and scope of the Courses in SWS as well as required performances, the type, scope and Design of which can be found in the module descriptions

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<b>Mandatory area</b>							
<a href="#">MW-VNT-21</a>	Research Internship			0/0/0/0 1 SWS Project (10)	0/0/0/0 1 SWS Project, E (2 days) Project Work 530 h (processing - time 26 weeks) with presentation 2xPL (10)		<b>20</b>
<a href="#">MW-VNT-22</a>	Interdisciplinary Technical Qualification of Process Engineering and Natural Materials Technology			##/##/## PL <sup>1)</sup> (5)	##/##/## PL <sup>1)</sup> (5)		<b>10</b>
Diploma thesis						27	<b>27</b>
Colloquium						3	<b>3</b>
<b>Compulsory elective area</b>							
<b>Field of study Process Engineering <sup>2)</sup></b>							
<b>Compulsory modules</b>							
<a href="#">MW-VNT-29</a> <sup>6, 16</sup>	System Process Engineering - Process Analysis and Design of Experiments - Systems Process Engineering		2/2/0/0 PL 1/1/0/0 1/1/0/0				<b>5</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<u>MW-VNT-31</u> <sup>6, 16</sup>	Chemical Thermodynamics and Multiphase Thermodynamics - Chemical Thermodynamics and Multiphase Thermodynamics		2/2/0/0 PL  2/2/0/0				<b>5</b>
<b>Elective modules</b>							
Alternatively, at the student's choice, one of two compulsory elective module blocks.							
<b>Compulsory elective module block General Fundamentals</b>							
<u>MW-VNT-18</u>	General and Engineering-Specific Qualifications in Process Engineering and Natural Materials Technology	##/##/## PL 3) (2)	##/##/## PL 3) (3)				<b>5</b>
<u>MW-VNT-19</u> <sup>1, 12, 23</sup>	Measurement and Automation Engineering	2/1/0/1 PL (4)	2/1/0/1 2xPL (4)				<b>8</b>
<u>MW-VNT-23</u> <sup>1</sup>	Fundamentals of Mechanical and Thermal Process Engineering - Basic Processes of Mechanical Process Engineering - Basic Processes of Thermal Process Engineering	4/2/0/0 PL  2/1/0/0 2/1/0/0					<b>7</b>
<u>MW-VNT-24</u> <sup>6, 28</sup>	Fundamentals of Chemical Process Engineering - Fundamentals of Reaction Engineering - Process Engineering Internship	2/2/0/1 2xPL 2/2/0/0 0/0/0/1					<b>5</b>
<u>MW-VNT-25</u> <sup>1, 6, 28, 35</sup>	Plant Engineering and Safety Engineering - Plant Engineering - Security Technology	4/0/0 PL 2/0/0/0 2/0/0/0					<b>5</b>
<u>MW-VNT-26</u>	Heat Transfer and Mass Transfer - Heat Transfer and Mass Transfer	2/2/0/0 PL 2/2/0/0					<b>5</b>
<u>MW-VNT-27</u>	Fluid Mechanics for Mechanical Process Engineering - Flow Problems in Mechanical Process Engineering		2/2/0/0 PL 2/2/0/0				<b>5</b>
<u>MW-VNT-28</u> <sup>15</sup>	Consolidation and Application of Thermal Process Engineering - Thermal Process Engineering - Environmental Technology		4/1/0/0 PL  2/1/0/0 2/0/0/0				<b>5</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<a href="#">MW-VNT-30</a> <sup>6, 28</sup>	Multiphase Reactions - Multiphase Reactions - Process Engineering Internship		2/1/0/1 2xPL 2/1/0/0 0/0/0/1				<b>5</b>
<b>Compulsory elective module block Advanced Fundamentals</b>							
<a href="#">MW-VNT-48</a>	Biophysics and Bioprocess Engineering Working Methods - Biophysics - Biotechnical Working Methods	3/0/0 PL 1/0/0/0 2/0/0/0					<b>5</b>
<a href="#">MW-VNT-49</a> <sup>1, 3, 6, 23</sup>	Fundamentals of Bioprocess Engineering - Fundamentals of Bioprocess Engineering	2/3/0/3 2xPL 2/3/0/3					<b>10</b>
<a href="#">MW-VNT-52</a>	Bioanalytics - Fundamentals of molecular bioanalysis - Monitoring of Bioprocesses		3/1/0/0 PL 2/1/0/0 1/0/0/0				<b>5</b>
<a href="#">MW-VNT-64</a> <sup>21, 33</sup>	Industrial Chemistry - Technical Chemistry	2/1/0/0 PL 2/1/0/0					<b>5</b>
<a href="#">MW-VNT-64</a> <sup>21, 33</sup>	Industrial Chemistry - Sustainable aspects of industrial and circular chemistry	2/0/0/0 PL 2/0/0/0					<b>5</b>
<a href="#">MW-VNT-66</a>	Chemical Processes and Material Separation Operations - Chemical Processes and Substance Separation Operations		0/0/0/3 2xPL 0/0/0/3				<b>5</b>
<a href="#">MW-VNT-76</a> <sup>1, 2</sup>	Basic Processes of Manufacturing and Processing of Wood-based Materials and Paper - Basic Processes in the Production and Processing of Wood-based Materials and Paper	8/0/0 PL 8/0/0/0					<b>10</b>
<a href="#">MW-VNT-78</a> <sup>1</sup>	Technology of Wood-based Materials Manufacturing and Paper Manufacturing - Technology of Wood-based Material Production and Paper Production		2/0/0/2 2xPL 2/0/0/2				<b>5</b>
<a href="#">MW-VNT-102</a> <sup>6</sup>	Generic Food Technology - General Food Technology		3/0/0 PL 3/0/0/0				<b>5</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
Modules amounting to a total of 30 credit points must be selected from the areas of Basic Research and Specialisation, of which modules amounting to at least 10 credit points must be selected from the area of Basic Research.							
<b>Area of Basic Research</b>							
<u>MW-VNT-32</u> <sup>2</sup>	Particle Technology - Selected Mechanical Processes - Particle Measurement Technology				3/2/0/0 PL 1/1/0/0 2/1/0/0		<b>5</b>
<u>MW-VNT-33</u> <sup>8</sup>	Process Automatization - Process Control Engineering 1 - Process Control Engineering 2				3/1/0/1 2x PL 2/0/0/1 1/1/0/0		<b>5</b>
<del><u>MW-VNT-34</u></del> <sup>5</sup>	<del>Reactor Technology - Reaction Control - Reactor Simulation</del>				<del>3/2/0/0 2xPL 2/1/0/0 1/1/0/0</del>		<del><b>5</b></del>
<u>MW-VNT-35</u> <sup>15, 29</sup>	Energy Process Engineering - Energetic Process Integration - Thermo-economic Modelling			2/1/0/0 2xPL 0/1/0/0 2/0/0/0			<b>5</b>
<u>MW-VNT-121</u> <sup>5, 15, 16, 17, 29, 35</sup>	Reaction Control and Reactor Technology - Reaction Control - Reactor Simulation				3/2/0/0 2xPL 2/1/0/0 1/1/0/0		<b>5</b>
<b>Area of Specialisation</b>							
<del><u>MW-VNT-36</u></del> <sup>5</sup>	<del>Recycling - Production Integrated Environmental Protection - Solid-fluid Mass Transfer Processes</del>				<del>4/1/0/0 2xPL 2/1/0/0 2/0/0/0</del>		<del><b>5</b></del>
<u>MW-VNT-37</u> <sup>2, 19</sup>	Interfacial Technology - Interfacial Phenomena - Product Development				4/1/0/0 PL 2/0/0/0 2/1/0/0		<b>5</b>
<u>MW-VNT-38</u> <sup>34</sup>	Process Analysis - Process Analysis				2/2/0/0 PL 2/2/0/0		<b>5</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<del>MW-VNT-39</del> <sup>2,5</sup>	Food and Bioprocess Engineering <del>- Fundamentals of Bioprocess Engineering</del> <del>- Food Technology</del>				4/1/0/0 PL <del>2/1/0/0</del> <del>2/0/0/0</del>		<b>5</b>
MW-VNT-40	European Course of Cryogenics <sup>6)</sup> - European Course of Cryogenics				3/0/0 PL 3/0/0/0 within the framework of a 3-week block Course		<b>5</b>
<del>MW-VNT-41</del> <sup>2</sup>	Clean Room and Clean Media Technology - Membrane Technology - Pure Technologies			3/1/0/0 PL 1/1/0/0 2/0/0/0			<b>5</b>
<del>MW-VNT-42</del> <sup>2, 28, 29, 35</sup>	Process Plants - Apparatus and Installations - Plant Project Planning			3/2/0/0 2xPL 2/1/0/0 1/1/0/0			<b>5</b>
MW-VNT-43	Cryogenics - Cryogenics			2/1/0/0 PL 2/1/0/0			<b>5</b>
<del>MW-VNT-44</del> <sup>2, 15</sup>	Environmental Process Engineering - Disposal Technology - Seminar Environmental Process Engineering			3/2/0/0 PL 2/0/0/0 1/2/0/0			<b>5</b>
<del>MW-VNT-45</del> <sup>2, 22</sup>	<del>Process Control Systems</del> <del>- Process Control Systems</del>			<del>2/2/0/0 2xPL</del> <del>2/2/0/0</del>			<b>5</b>
MW-VNT-117 <sup>5</sup>	Food Technology and Bioprocess Engineering - Fundamentals of Bioprocess Engineering - Food Technology				4/1/0/0 PL 2/1/0/0 2/0/0/0		<b>5</b>
MW-VNT-123 <sup>5</sup>	Resource Technology and Sustainability - Production-Integrated Environmental Protection - Solid-fluid Mass Transfer Processes				4/1/0/0 PL 2/0/0/0 2/1/0/0		<b>5</b>
<del>MW-VNT-127</del> <sup>22</sup>	Process Control and Optimization - Process Control and Optimization			2/2/0/0 2xPL 2/2/0/0			<b>5</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<a href="#">MW-VNT-128<sup>25</sup></a>	Machine Learning in Chemical Engineering - Machine Learning in Chemical Engineering				2/2/0/0 2xPL 1 SWS Projekt 2/2/0/0		<b>5</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<b>Field of study Bioprocess Engineering <sup>2)</sup></b>							
<b>Compulsory modules</b>							
<a href="#">MW-VNT-51</a> <sup>6</sup>	Microbiology for Bioprocess Engineers - Microbiology for Bioprocess engineers		2/0/0/2 2xPL 2/0/0/2				<b>5</b>
<a href="#">MW-VNT-52</a>	Bioanalytics - Fundamentals of molecular bioanalysis - Monitoring of Bioprocesses		3/1/0/0 PL 2/1/0/0 1/0/0/0				<b>5</b>
<b>Elective modules</b>							
Alternatively, at the student's choice, one of two compulsory elective module blocks.							
<b>Compulsory elective module block General Fundamentals</b>							
<a href="#">MW-VNT-18</a>	General and Engineering-Specific Qualifications in Process Engineering and Natural Materials Technology	##/##/## PL <sup>3)</sup> (2)	##/##/## PL <sup>3)</sup> (3)				<b>5</b>
<a href="#">MW-VNT-19</a> <sup>1, 12, 23</sup>	Measurement and Automation Engineering	2/1/0/1 PL (4)	2/1/0/1 2xPL (4)				<b>8</b>
<a href="#">MW-VNT-46</a> <sup>1, 23</sup>	General Microbiology - General Microbiology	2/0/0/2 2xPL 2/0/0/2					<b>5</b>
<a href="#">MW-VNT-47</a> <sup>15</sup>	Fundamental Processes of Thermal Process Engineering - Basic Processes of Thermal Process Engineering - Process Engineering Internship	2/1/0/1 2xPL  2/1/0/0 0/0/0/1					<b>5</b>
<a href="#">MW-VNT-48</a>	Biophysics and Bioprocess Engineering Working Methods - Biophysics - Biotechnical Working Methods	3/0/0 PL  1/0/0/0 2/0/0/0					<b>5</b>
<a href="#">MW-VNT-49</a> <sup>1, 3, 6, 23</sup>	Fundamentals of Bioprocess Engineering - Fundamentals of Bioprocess Engineering		2/3/0/3 2xPL 2/3/0/3				<b>10</b>



Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<a href="#">MW-VNT-50</a> <sup>2, 3, 6, 23</sup>	Biochemistry for Bioprocess Engineers - Biochemistry for Biochemical Engineers	2/0/0/4 2xPL 2/0/0/4					<b>7</b>
<a href="#">MW-VNT-53</a>	Mechanical Process Engineering and Process Analysis - Mechanical Reconditioning Processes - Process Analysis and Design of Experiments		3/2/0/0 PL 2/1/0/0 1/1/0/0				<b>5</b>
<b>Compulsory elective module block Advanced Fundamentals</b>							
<a href="#">MW-VNT-24</a> <sup>6, 28</sup>	Fundamentals of Chemical Process Engineering - Fundamentals of Reaction Engineering - Process Engineering Internship	2/2/0/1 2xPL 2/2/0/0 0/0/0/1					<b>5</b>
<a href="#">MW-VNT-26</a>	Heat Transfer and Mass Transfer - Heat Transfer and Mass Transfer	2/2/0/0 PL 2/2/0/0					<b>5</b>
<a href="#">MW-VNT-27</a>	Fluid Mechanics for Mechanical Process Engineering - Flow Problems in Mechanical Process Engineering		2/2/0/0 PL 2/2/0/0				<b>5</b>
<a href="#">MW-VNT-31</a> <sup>6, 16</sup>	Chemical Thermodynamics and Multiphase Thermodynamics - Chemical Thermodynamics and Multiphase Thermodynamics		2/2/0/0 PL  2/2/0/0				<b>5</b>
<a href="#">MW-VNT-63</a>	Analytical Chemistry - Analytical Chemistry - Practical Course General Chemistry	2/0/0/2 2xPL 2/0/0/0 0/0/0/2					<b>5</b>
<a href="#">MW-VNT-65</a>	Fundamental Chemical Analysis - Practical Course Analytical Chemistry - Practical Course Organic Chemistry/Biochemistry		0/1/0/4 2xPL 0/1/0/1 0/0/0/3				<b>5</b>
<a href="#">MW-VNT-75</a> <sup>2</sup>	Fundamentals of Wood Anatomy - Basics of Wood Anatomy	3/1/0/1 2xPL 3/1/0/1					<b>5</b>
<a href="#">MW-VNT-76</a> <sup>1, 2</sup>	Basic Processes of Manufacturing and Processing of Wood-based Materials and Paperr - Basic Processes in the Production and Processing of Wood-based Materials and Paper	8/0/0 PL  8/0/0/0					<b>10</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<a href="#">MW-VNT-102</a> <sup>6</sup>	Generic Food Technology - General Food Technology		3/0/0 PL 3/0/0/0				<b>5</b>
Modules amounting to a total of 30 credit points must be selected from the areas of Basic Research and Specialisation, of which modules amounting to at least 10 credit points must be selected from the area of Basic Research.							
<b>Area of Basic Research</b>							
<a href="#">MW-VNT-54</a> <sup>5</sup>	Bioprocess Engineering and Bioreaction Engineering <del>— Bioreaction Technology</del> <del>— Bioprocessing</del>				<del>3/2/0/1 2xPL</del> <del>2/1/0/0</del> <del>1/1/0/1</del>		<b>5</b>
<a href="#">MW-VNT-55</a>	Enzyme and Biosensor Technology - Enzyme Technology - Biosensor Technology				2/1/0/2 2xPL 1/1/0/1 1/0/0/1		<b>5</b>
<a href="#">MW-VNT-56</a>	White Biotechnology <del>— Plant Cell Biotechnology</del> <del>— Energy Biotechnology</del>				<del>3/1/0/1 2xPL</del> <del>1/1/0/1</del> <del>2/0/0/0</del>		<b>5</b>
<a href="#">MW-VNT-57</a> <sup>30</sup>	Applied Biotechnology - Biotechnical Processes - Seminar Biotechnology			3/0/1/0 PL 3/0/0/0 0/0/1/0			<b>5</b>
<a href="#">MW-VNT-118</a> <sup>5-27</sup>	Special Bioprocess Engineering <del>— Bioreaction Technology</del> <del>— Bioprocessing</del>				<del>3/2/0/1 PL</del> <del>2/1/0/0</del> <del>1/1/0/1</del>		<b>5</b>
<a href="#">MW-VNT-119</a> <sup>5-27</sup>	Chapter of White Biotechnology <del>— Plant Cell Biotechnology</del> <del>— Energy Biotechnology</del>				<del>3/1/0/1 2xPL</del> <del>1/1/0/1</del> <del>2/0/0/0</del>		<b>5</b>
<a href="#">MW-VNT-129</a> <sup>25</sup>	Bioprocess Engineering - Bioprocessing - Biorefinery Technology				3/1/0/1 2xPL 1/1/0/1 2/0/0/0		<b>5</b>
<a href="#">MW-VNT-130</a> <sup>25</sup>	Bioreaction Engineering - Bioreaction Engineering - Bioreaction Seminar				2/1/1/0 PL 2/1/0/0 0/0/1/0		<b>5</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<b>Area of Specialisation</b>							
<u>MW-VNT-38</u> <sup>34</sup>	Process Analysis - Process Analysis				2/2/0/0 PL 2/2/0/0		<b>5</b>
<u>MW-VNT-42</u> <sup>2, 28, 29, 35</sup>	Process Plants - Apparatus and Installations - Plant Project Planning			3/2/0/0 2xPL 2/1/0/0 1/1/0/0			<b>5</b>
<u>MW-VNT-44</u> <sup>2, 15</sup>	Environmental Process Engineering - Disposal Technology - Seminar Environmental Process Engineering			3/2/0/0 PL 2/0/0/0 1/2/0/0			<b>5</b>
<u>MW-VNT-58</u> <sup>4</sup>	Biotechnical Plants and Processes - Project Planning of Biotechnical Plants - Continuous Bioprocesses				<del>3/1/0/1 2xPL</del> 1/1/0/1 2/0/0/0		<b>5</b>
<u>MW-VNT-59</u> <sup>5</sup>	Downstream Processing in Biotechnology - Membrane Technology - Special Bioprocessing Technology			<del>3/1/0/0 2xPL</del> 1/1/0/0 2/0/0/0			<b>5</b>
<u>MW-VNT-60</u> <sup>7</sup>	Food Engineering for Bioprocess Engineers - Food Physics / Rheology - Food Technology				4/0/0 PL 2/0/0/0 2/0/0/0		<b>5</b>
<u>MW-VNT-61</u>	Chemometrics - Chemometrics			2/1/0/0 2xPL 2/1/0/0			<b>5</b>
<u>MW-VNT-62</u>	Systems Biotechnology and Synthetic Biology			##/##/## PL <sup>4)</sup> (3)	##/##/## PL <sup>4)</sup> (2)		<b>5</b>
<u>MW-VNT-115</u> <sup>4</sup>	Automation and Control of Biotechnical Processes			##/##/## PL <sup>8)</sup>	##/##/## PL <sup>8)</sup>		<b>5</b>
<u>MW-VNT-122</u> <sup>5</sup>	Processing in Biotechnology - Membrane Technology - Special Bioprocessing Technology			3/1/0/0 2xPL 1/1/0/0 2/0/0/0			<b>5</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<b>Field of study Chemical Engineering <sup>2)</sup></b>							
<b>Compulsory modules</b>							
<u>MW-VNT-27</u>	Fluid Mechanics for Mechanical Process Engineering - Flow Problems in Mechanical Process Engineering		2/2/0/0 PL 2/2/0/0				<b>5</b>
<u>MW-VNT-28</u> <sup>15</sup>	Consolidation and Application of Thermal Process Engineering - Thermal Process Engineering - Environmental Technology		4/1/0/0 PL  2/1/0/0 2/0/0/0				<b>5</b>
<b>Elective modules</b>							
Alternatively, at the student's choice, one of two compulsory elective module blocks.							
<b>Compulsory elective module block General Fundamentals</b>							
<u>MW-VNT-18</u>	General and Engineering-Specific Qualifications in Process Engineering and Natural Materials Technology	##/##/## PL 3) (2)	##/##/## PL 3) (3)				<b>5</b>
<u>MW-VNT-19</u> <sup>1, 12, 23</sup>	Measurement and Automation Engineering	2/1/0/1 PL (4)	2/1/0/1 2xPL (4)				<b>8</b>
<u>MW-VNT-23</u> <sup>1</sup>	Fundamentals of Mechanical and Thermal Process Engineering - Basic Processes of Mechanical Process Engineering - Basic Processes of Thermal Process Engineering	4/2/0/0 PL  2/1/0/0 2/1/0/0					<b>7</b>
<u>MW-VNT-24</u> <sup>6, 28</sup>	Fundamentals of Chemical Process Engineering - Fundamentals of Reaction Engineering - Process Engineering Internship	2/2/0/1 2xPL 2/2/0/0 0/0/0/1					<b>5</b>
<u>MW-VNT-30</u> <sup>6, 28</sup>	Multiphase Reactions - Multiphase Reactions - Process Engineering Internship		2/1/0/1 2xPL 2/1/0/0 0/0/0/1				<b>5</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<a href="#">MW-VNT-63</a>	Analytical Chemistry - Analytical Chemistry - Practical Course General Chemistry	2/0/0/2 2xPL 2/0/0/0 0/0/0/2					<b>5</b>
<a href="#">MW-VNT-64</a> <sup>21, 33</sup>	Industrial Chemistry - Technical Chemistry	2/1/0/0 PL 2/1/0/0					<b>5</b>
<a href="#">MW-VNT-64</a> <sup>21, 33</sup>	Industrial Chemistry Sustainable aspects of industrial and circular chemistry	2/0/0/0 PL 2/0/0/0					<b>5</b>
<a href="#">MW-VNT-65</a>	Fundamental Chemical Analysis - Practical Course Analytical Chemistry - Practical Course Organic Chemistry/Biochemistry		0/1/0/4 2xPL 0/1/0/1 0/0/0/3				<b>5</b>
<a href="#">MW-VNT-66</a>	Chemical Processes and Material Separation Operations - Chemical Processes and Substance Separation Operations		0/0/0/3 2xPL 0/0/0/3				<b>5</b>
<b>Compulsory elective module block Advanced Fundamentals</b>							
<a href="#">MW-VNT-46</a> <sup>1, 23</sup>	General Microbiology - General Microbiology	2/0/0/2 2xPL 2/0/0/2					<b>5</b>
<a href="#">MW-VNT-48</a>	Biophysics and Bioprocess Engineering Working Methods - Biophysics - Biotechnical Working Methods	3/0/0 PL 1/0/0/0 2/0/0/0					<b>5</b>
<a href="#">MW-VNT-52</a>	Bioanalytics - Fundamentals of molecular bioanalysis - Monitoring of Bioprocesses		3/1/0/0 PL 2/1/0/0 1/0/0/0				<b>5</b>
<a href="#">MW-VNT-74</a>	Chemical Fundamentals of Wood and Fibre Materials Technology - Chemical Basics of Wood Technology and Fibre Materials Technology	2/2/0/0 2xPL 2/2/0/0					<b>5</b>
<a href="#">MW-VNT-76</a> <sup>1, 2</sup>	Basic Processes of Manufacturing and Processing of Wood-based Materials and Paper - Basic Processes in the Production and Processing of Wood-based Materials and Paper	8/0/0 PL 8/0/0/0					<b>10</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<a href="#">MW-VNT-78</a> <sup>1</sup>	Technology of Wood-based Materials Manufacturing and Paper Manufacturing - Technology of Wood-based Material Production and Paper Production		2/0/0/2 2xPL  2/0/0/2				5
<a href="#">MW-VNT-79</a>	Technology of Wood-based Materials Processing and Paper Processing - Technology of Wood-based Material Processing and Paper Processing		2/0/0/2 2xPL  2/0/0/2				5
<a href="#">MW-VNT-100</a> <sup>6</sup>	Food Science - Food Science 1 - General Microbiology	4/0/0 2xPL 2/0/0/0 2/0/0/0					5
<a href="#">MW-VNT-102</a> <sup>6</sup>	Generic Food Technology - General Food Technology		3/0/0 PL 3/0/0/0				5

Modules amounting to a total of 30 credit points must be selected from the areas of Basic Research and Specialisation, of which modules amounting to at least 10 credit points must be selected from the area of Basic Research.

#### Area of Basic Research

<a href="#">MW-VNT-25</a> <sup>1, 6, 28, 35</sup>	Plant Engineering and Safety Engineering - Plant Engineering - Security Technology			4/0/0 PL 2/0/0/0 2/0/0/0			5
<a href="#">MW-VNT-67</a> <sup>2, 9</sup>	High-performance Materials - Inorganic Materials - Ceramic Materials				4/1/0/0 PL 2/1/0/0 2/0/0/0		5
<a href="#">MW-VNT-68</a>	Macromolecular Chemistry - Macromolecular Chemistry			2/0/0 PL 2/0/0/0	2/0/0 PL 2/0/0/0		5
<a href="#">MW-VNT-69</a>	Chemical-technical Fundamentals of Renewable Energy - Chemical-technical Basics of Regenerative Energy Production			2/0/0/2 2xPL  2/0/0/2			5

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<b>Area of Specialisation</b>							
<u>MW-VNT-26</u>	Heat Transfer and Mass Transfer - Heat Transfer and Mass Transfer			2/2/0/0 PL 2/2/0/0			<b>5</b>
<u>MW-VNT-29</u> <sup>6, 16</sup>	System Process Engineering - Process Analysis and Design of Experiments - Systems Process Engineering				2/2/0/0 PL 1/1/0/0 1/1/0/0		<b>5</b>
<u>MW-VNT-31</u> <sup>6, 16</sup>	Chemical Thermodynamics and Multiphase Thermodynamics - Chemical Thermodynamics and Multiphase Thermodynamics				2/2/0/0 PL  2/2/0/0		<b>5</b>
<u>MW-VNT-35</u> <sup>15, 29</sup>	Energy Process Engineering - Energetic Process Integration - Thermo-economic Modelling			2/1/0/0 2xPL 0/1/0/0 2/0/0/0			<b>5</b>
<u>MW-VNT-39</u> <sup>2, 5</sup>	Food and Bioprocess Engineering <del>Fundamentals of Bioprocess Engineering</del> <del>Food Technology</del>				4/1/0/0 PL <del>2/1/0/0</del> <del>2/0/0/0</del>		<b>5</b>
<u>MW-VNT-61</u>	Chemometrics - Chemometrics			2/1/0/0 2xPL 2/1/0/0			<b>5</b>
<u>MW-VNT-70</u>	Particles and Interfaces - Particle Measurement Technology - Interfacial Phenomena				4/1/0/0 PL 2/1/0/0 2/0/0/0		<b>5</b>
<u>MW-VNT-71</u> <sup>20</sup>	Water Technology <del>Chemical Water Technology</del> <del>Water Constituents</del>				4/0/0 2xPL <del>2/0/0/0</del> <del>2/0/0/0</del>		<b>5</b>
<u>MW-VNT-72</u>	Chemistry of Food: Reactions and Functionalities of Ingredients, Residues and Packaging - Ingredients - Residues and Packaging				4/0/0 PL  2/0/0/0 2/0/0/0		<b>5</b>
<u>MW-VNT-73</u>	Biomimetic Material Synthesis - Biomimetic Material Synthesis			2/1/0/1 2xPL 2/1/0/1			<b>5</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<a href="#">MW-VNT-117</a> <sup>5</sup>	Food Technology and Bioprocess Engineering - Fundamentals of Bioprocess Engineering - Food Technology				4/1/0/0 PL 2/1/0/0 2/0/0/0		<b>5</b>
<a href="#">MW-VNT-121</a> <sup>5, 15, 16, 17, 29, 35</sup>	Reaction Control and Reactor Technology - Reaction Control - Reactor Simulation				3/2/0/0 2xPL 2/1/0/0 1/1/0/0		<b>5</b>
<a href="#">MW-VNT-126</a> <sup>20</sup>	Chemical Water Technology - Chemical Water Technology - Water Constituents			4/0/0/0 PL 2/0/0/0 2/0/0/0			<b>5</b>
<a href="#">MW-VNT-128</a> <sup>25</sup>	Machine Learning in Chemical Engineering - Machine Learning in Chemical Engineering				2/2/0/0 2xPL 1 SWS Project 2/2/0/0		<b>5</b>



Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<b>Field of study Wood and Fibre Material Technology <sup>2)</sup></b>							
<b>Compulsory modules</b>							
<a href="#">MW-VNT-78</a> <sup>1</sup>	Technology of Wood-based Materials Manufacturing and Paper Manufacturing - Technology of Wood-based Material Production and Paper Production		2/0/0/2 2xPL  2/0/0/2				<b>5</b>
<a href="#">MW-VNT-79</a>	Technology of Wood-based Materials Processing and Paper Processing - Technology of Wood-based Material Processing and Paper Processing		2/0/0/2 2xPL  2/0/0/2				<b>5</b>
<b>Elective modules</b>							
Alternatively, at the student's choice, one of two compulsory elective module blocks.							
<b>Compulsory elective module block General Fundamentals</b>							
<a href="#">MW-VNT-18</a>	General and Engineering-Specific Qualifications in Process Engineering and Natural Materials Technology	##/##/## PL 3) (2)	##/##/## PL 3) (3)				<b>5</b>
<a href="#">MW-VNT-19</a> <sup>1, 12, 23</sup>	Measurement and Automation Engineering	2/1/0/1 PL (4)	2/1/0/1 2xPL (4)				<b>8</b>
<a href="#">MW-VNT-47</a> <sup>15</sup>	Fundamental Processes of Thermal Process Engineering - Basic Processes of Thermal Process Engineering - Process Engineering Internship	2/1/0/1 2xPL  2/1/0/0 0/0/0/1					<b>5</b>
<a href="#">MW-VNT-53</a>	Mechanical Process Engineering and Process Analysis - Mechanical Reconditioning Processes - Process Analysis and Design of Experiments		3/2/0/0 PL 2/1/0/0 1/1/0/0				<b>5</b>
<a href="#">MW-VNT-74</a>	Chemical Fundamentals of Wood and Fibre Materials Technology - Chemical Basics of Wood Technology and Fibre Materials Technology	2/2/0/0 2xPL  2/2/0/0					<b>5</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<a href="#">MW-VNT-75</a> <sup>2</sup>	Fundamentals of Wood Anatomy - Basics of Wood Anatomy	3/1/0/1 2xPL 3/1/0/1					<b>5</b>
<a href="#">MW-VNT-76</a> <sup>1,2</sup>	Basic Processes of Manufacturing and Processing of Wood-based Materials and Paper - Basic Processes in the Production and Processing of Wood-based Materials and Paper	8/0/0 PL  8/0/0/0					<b>10</b>
<a href="#">MW-VNT-77</a>	Physical Fundamentals of Wood Technology and Paper Technology - Physical Fundamentals of Wood Technology and Paper Technology		3/1/0/1 2xPL  3/1/0/1				<b>7</b>
<b>Compulsory elective module block Advanced Fundamentals</b>							
<a href="#">MW-VNT-24</a> <sup>6, 28</sup>	Fundamentals of Chemical Process Engineering - Fundamentals of Reaction Engineering - Process Engineering Internship	2/2/0/1 2xPL 2/2/0/0 0/0/0/1					<b>5</b>
<a href="#">MW-VNT-25</a> <sup>1, 6, 28, 35</sup>	Plant Engineering and Safety Engineering - Plant Engineering - Security Technology	4/0/0 PL 2/0/0/0 2/0/0/0					<b>5</b>
<a href="#">MW-VNT-26</a>	Heat Transfer and Mass Transfer - Heat Transfer and Mass Transfer	2/2/0/0 PL 2/2/0/0					<b>5</b>
<a href="#">MW-VNT-28</a> <sup>15</sup>	Consolidation and Application of Thermal Process Engineering - Thermal Process Engineering - Environmental Technology		4/1/0/0 PL  2/1/0/0 2/0/0/0				<b>5</b>
<a href="#">MW-VNT-31</a> <sup>6, 16</sup>	Chemical Thermodynamics and Multiphase Thermodynamics - Chemical Thermodynamics and Multiphase Thermodynamics		2/2/0/0 PL  2/2/0/0				<b>5</b>
<a href="#">MW-VNT-48</a>	Biophysics and Bioprocess Engineering Working Methods - Biophysics - Biotechnical Working Methods	3/0/0 PL  1/0/0/0 2/0/0/0					<b>5</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<a href="#">MW-VNT-52</a>	Bioanalytics - Fundamentals of molecular bioanalysis - Monitoring of Bioprocesses		3/1/0/0 PL 2/1/0/0 1/0/0/0				<b>5</b>
<a href="#">MW-VNT-101</a>	Fundamentals of Food Chemistry - Fundamentals of Food Chemistry	4/1/0/3 2xPL 4/1/0/3					<b>10</b>
<a href="#">MW-VNT-102</a> <sup>6</sup>	Generic Food Technology - General Food Technology		3/0/0 PL 3/0/0/0				<b>5</b>

Modules amounting to a total of 30 credit points must be selected from the areas of Basic Research and Specialisation, of which modules amounting to at least 10 credit points must be selected from the area of Basic Research.

#### Area of Basic Research

<a href="#">MW-VNT-80</a> <sup>31</sup>	Development of Furniture and Building Elements - Furniture and Construction Element Development				3/2/0/0 2xPL 3/2/0/0		<b>5</b>
<a href="#">MW-VNT-81</a> <sup>29</sup>	Wood Preservation - Wood Preservation				3/1/0/0 2xPL 3/1/0/0		<b>5</b>
<a href="#">MW-VNT-82</a> <sup>2</sup>	Machines and Processes in Paper Manufacturing - Machines and Processes of Paper Production				3/0/0/1 2xPL 3/0/0/1		<b>5</b>
<a href="#">MW-VNT-83</a> <sup>2</sup>	Machines and Processes in Paper Processing - Paper Converting Machines and Processes				3/0/0/1 2xPL 3/0/0/1		<b>5</b>
<a href="#">MW-VNT-84</a> <sup>13, 31</sup>	Wood Drying and Modification - Wood Drying - Wood Modification			2/3/0/0 2xPL 1/2/0/0 1/1/0/0			<b>5</b>
<a href="#">MW-VNT-85</a> <sup>29</sup>	Scientific Work in Wood Technology - Scientific Work in Wood Technology			1/0/0/3 2xPL 1/0/0/3			<b>5</b>
<a href="#">MW-VNT-86</a>	Fiber and Paper Physics - Fibre Physics and Paper Physics			3/0/0/1 2xPL 3/0/0/1			<b>5</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<b>Area of Specialisation</b>							
<a href="#">MW-VNT-38</a> <sup>34</sup>	Process Analysis - Process Analysis				2/2/0/0 PL 2/2/0/0		<b>5</b>
<a href="#">MW-VNT-39</a> <sup>2,5</sup>	Food and Bioprocess Engineering - Fundamentals of Bioprocess Engineering - Food Technology				4/1/0/0 PL 2/1/0/0 2/0/0/0		<b>5</b>
<a href="#">MW-VNT-87</a> <sup>29</sup>	Coating and Bonding Technologies - Surface Finishing - Adhesive Technology				2/0/0/2 2xPL 1/0/0/1 1/0/0/1		<b>5</b>
<a href="#">MW-VNT-88</a> <sup>29</sup>	Timber Construction - Timber Construction				2/1/0/0 2xPL 2/1/0/0		<b>5</b>
<a href="#">MW-VNT-89</a> <sup>14</sup>	Introduction to Industrial Design Methodology - Basics of Design Process and Tools				2/0/0/2 2xPL 2/0/0/2		<b>5</b>
<a href="#">MW-VNT-90</a> <sup>14</sup>	Design Fundamentals - Design Basics				2/0/0/3 PL 2/0/0/3		<b>5</b>
<a href="#">MW-VNT-91</a>	Paper and Cellulose Chemistry - Paper and Cellulose Chemistry				2/0/0/2 2xPL 2/0/0/2		<b>5</b>
<a href="#">MW-VNT-92</a>	Innovative Fiber-Based Bioproducts - Innovative Fiber-Based Bioproducts				2/0/0/2 2xPL 2/0/0/2		<b>5</b>
<a href="#">MW-VNT-93</a> <sup>28, 29</sup>	Manufacturing of Fibre Composites - Technologies for Thermoplastic Composites - Technologies for Thermoset Composites			3/2/0/0 PL 1/1/0/0 2/1/0/0			<b>5</b>
<a href="#">MW-VNT-94</a> <sup>29</sup>	Designing with Polymers - Design Suitable for Plastics - Special Problems in Plastics Technology			4/0/0 PL 2/0/0/0 2/0/0/0			<b>5</b>
<a href="#">MW-VNT-95</a> <sup>29</sup>	Product Manufacturing - Production Facility Planning - Furniture and Construction Element Production			3/0/0/1 2xPL 2/0/0/0 1/0/0/1			<b>5</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<a href="#">MW-VNT-96</a> <sup>29</sup>	Cutting Technology - Production Automation - Machining and CNC Technology			2/0/0/2 2xPL 1/0/0/0 1/0/0/2			<b>5</b>
<a href="#">MW-VNT-97</a> <sup>2</sup>	Special Process and Control Strategies in Paper Production - Special Process and Control Strategies in Paper Technology			2/0/0/2 2xPL  2/0/0/2			<b>5</b>
<a href="#">MW-VNT-98</a>	Paper Loops and Treatment of Paper for Recycling - Paper Loops and Treatment of Paper for Recycling			2/0/0/2 2xPL 2/0/0/2			<b>5</b>
<a href="#">MW-VNT-117</a> <sup>5</sup>	Food Technology and Bioprocess Engineering - Fundamentals of Bioprocess Engineering - Food Technology				4/1/0/0 PL 2/1/0/0 2/0/0/0		<b>5</b>
<a href="#">MW-VNT-124</a> <sup>14</sup>	Industrial Design Methodology - Industrial Design Methodology				2/1/0/0 2xPL 2/1/0/0		<b>5</b>
<a href="#">MW-VNT-125</a> <sup>14</sup>	Two-Dimensional Design Fundamentals - Two-Dimensional Design Fundamentals				2/0/0/3 2xPL 2/0/0/3		<b>5</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<b>Field of study Food Engineering <sup>2)</sup></b>							
<b>Compulsory modules</b>							
<a href="#">MW-VNT-53</a>	Mechanical Process Engineering and Process Analysis - Mechanical Reconditioning Processes - Process Analysis and Design of Experiments		3/2/0/0 PL 2/1/0/0 1/1/0/0				<b>5</b>
<a href="#">MW-VNT-103</a> <sup>6</sup>	Unit Operations in Food Engineering - Basic Food Technology Procedures		2/0/0/2 2xPL 2/0/0/2				<b>5</b>
<b>Elective modules</b>							
Alternatively, at the student's choice, one of two compulsory elective module blocks.							
<b>Compulsory elective module block General Fundamentals</b>							
<a href="#">MW-VNT-18</a>	General and Engineering-Specific Qualifications in Process Engineering and Natural Materials Technology	##/##/## PL <sup>3)</sup> (2)	##/##/## PL <sup>3)</sup> (3)				<b>5</b>
<a href="#">MW-VNT-19</a> <sup>1, 12, 23</sup>	Measurement and Automation Engineering	2/1/0/1 PL (4)	2/1/0/1 2xPL (4)				<b>8</b>
<a href="#">MW-VNT-47</a> <sup>15</sup>	Fundamental Processes of Thermal Process Engineering - Basic Processes of Thermal Process Engineering - Process Engineering Internship	2/1/0/1 2xPL  2/1/0/0 0/0/0/1					<b>5</b>
<a href="#">MW-VNT-99</a> <sup>6</sup>	Fundamentals of Food Engineering - Introduction Food Technology - Introduction Food Technology	4/0/0 PL 2/0/0/0 2/0/0/0					<b>5</b>
<a href="#">MW-VNT-100</a> <sup>6</sup>	Food Science - Food Science 1 - General Microbiology	4/0/0 2xPL 2/0/0/0 2/0/0/0					<b>5</b>
<a href="#">MW-VNT-101</a>	Fundamentals of Food Chemistry - Fundamentals of Food Chemistry	4/1/0/3 2xPL 4/1/0/3					<b>10</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<a href="#">MW-VNT-102</a> <sup>6</sup>	Generic Food Technology - General Food Technology		3/0/0 PL 3/0/0/0				<b>5</b>
<a href="#">MW-VNT-104</a> <sup>2,6</sup>	Food Microbiology and Hygiene - Food Science 2 - Food Microbiology		4/0/0/2 2xPL 2/0/0/0 2/0/0/2				<b>7</b>
<b>Compulsory elective module block Advanced Fundamentals</b>							
<a href="#">MW-VNT-24</a> <sup>6,28</sup>	Fundamentals of Chemical Process Engineering - Fundamentals of Reaction Engineering - Process Engineering Internship	2/2/0/1 2xPL 2/2/0/0 0/0/0/1					<b>5</b>
<a href="#">MW-VNT-27</a>	Fluid Mechanics for Mechanical Process Engineering - Flow Problems in Mechanical Process Engineering		2/2/0/0 PL 2/2/0/0				<b>5</b>
<a href="#">MW-VNT-30</a> <sup>6,28</sup>	Multiphase Reactions - Multiphase Reactions - Process Engineering Internship		2/1/0/1 2xPL 2/1/0/0 0/0/0/1				<b>5</b>
<a href="#">MW-VNT-48</a>	Biophysics and Bioprocess Engineering Working Methods - Biophysics - Biotechnical Working Methods	3/0/0 PL  1/0/0/0 2/0/0/0					<b>5</b>
<a href="#">MW-VNT-49</a> <sup>1,3,6,23</sup>	Fundamentals of Bioprocess Engineering - Fundamentals of Bioprocess Engineering	2/3/0/3 2xPL 2/3/0/3					<b>10</b>
<a href="#">MW-VNT-52</a>	Bioanalytics - Fundamentals of molecular bioanalysis - Monitoring of Bioprocesses		3/1/0/0 PL 2/1/0/0 1/0/0/0				<b>5</b>
<a href="#">MW-VNT-63</a>	Analytical Chemistry - Analytical Chemistry - Practical Course General Chemistry	2/0/0/2 2xPL 2/0/0/0 0/0/0/2					<b>5</b>
<a href="#">MW-VNT-65</a>	Fundamental Chemical Analysis - Practical Course Analytical Chemistry - Practical Course Organic Chemistry/Biochemistry		0/1/0/4 2xPL 0/1/0/1 0/0/0/3				<b>5</b>

Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<u>MW-VNT-74</u>	Chemical Fundamentals of Wood and Fibre Materials Technology - Chemical Basics of Wood Technology and Fibre Materials Technology	2/2/0/0 2xPL  2/2/0/0					<b>5</b>

Modules amounting to a total of 30 credit points must be selected from the areas of Basic Research and Specialisation, of which modules amounting to at least 10 credit points must be selected from the area of Basic Research.

#### Area of Basic Research

<u>MW-VNT-105</u> <sup>5</sup>	<del>Food Rheology</del> Food Rheology				2/0/0/2 2xPL 2/0/0/2		<b>5</b>
<u>MW-VNT-106</u> <sup>29</sup>	Quality Assurance in the Food Industry - Sensor Technology and Quality Management - Food Technology Seminar				2/1/1/0 2xPL 2/1/0/0 0/0/1/0		<b>5</b>
<u>MW-VNT-107</u> <sup>2,5</sup>	<del>Bioprocess Engineering for Food Engineers</del> Bioprocess Engineering for Food technicians				<del>3/1/0/0 PL</del> 3/1/0/0		<b>5</b>
<u>MW-VNT-108</u> <sup>29</sup>	Special Topics in Food Technology - Beverage Technology - Food Technology Seminar - Technofunctional additives			3/0/1/1 2xPL 2/0/0/0 0/0/1/0 1/0/0/1			<b>5</b>
<u>MW-VNT-116</u> <sup>5</sup>	Bioprocess Engineering Fundamentals for Food Engineers - Fundamentals of Bioprocess Engineering - Enzyme Technology				3/2/0/0 PL  2/1/0/0 1/1/0/0		<b>5</b>
<u>MW-VNT-120</u> <sup>5</sup>	Food Rheology - Food Rheology				2/0/0/2 2xPL 2/0/0/2		<b>5</b>

#### Area of Specialisation

<u>MW-VNT-25</u> <sup>1, 6, 28, 35</sup>	Plant Engineering and Safety Engineering - Plant Engineering - Security Technology			4/0/0 PL 2/0/0/0 2/0/0/0			<b>5</b>
--	--	--	--	--------------------------------	--	--	----------



Module no.	Module name	1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester (M)	4 <sup>th</sup> Semester (M)	5 <sup>th</sup> Semester	LP
		V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	V/Ü/S/P	
<a href="#">MW-VNT-38</a> <sup>34</sup>	Process Analysis - Process Analysis				2/2/0/0 PL 2/2/0/0		5
<a href="#">MW-VNT-42</a> <sup>2, 28, 29, 35</sup>	Process Plants - Apparatus and Installations - Plant Project Planning			3/2/0/0 2xPL 2/1/0/0 1/1/0/0			5
<a href="#">MW-VNT-44</a> <sup>2, 15</sup>	Environmental Process Engineering - Disposal Technology - Seminar Environmental Process Engineering			3/2/0/0 PL 2/0/0/0 1/2/0/0			5
<a href="#">MW-VNT-61</a>	Chemometrics - Chemometrics			2/1/0/0 2xPL 2/1/0/0			5
<a href="#">MW-VNT-109</a>	Food Packaging - Packaging Machines - Packaging Materials			4/0/0 PL 2/0/0/0 2/0/0/0			5
<a href="#">MW-VNT-110</a> <sup>2, 28</sup>	Refrigeration Technology - Refrigeration				2/2/0/0 PL 2/2/0/0		5
<a href="#">MW-VNT-111</a>	Applied Biochemistry and Nutritional Physiology - Applied Biochemistry and Nutritional Physiology			2/0/0 PL 2/0/0/0	2/0/0 PL 2/0/0/0		5
<a href="#">MW-VNT-112</a>	Membrane Technology and Particle Technology - Particle Measurement Technology - Membrane Technology			2/0/0 PL 2/0/0/0	1/1/0/0 PL  1/1/0/0		5
<a href="#">MW-VNT-113</a>	Machine Technology in the Food Industry - Food Processing Machinery - Industrial Hygiene and Cleaning Technology			4/0/0 PL 2/0/0/0 2/0/0/0			5
<a href="#">MW-VNT-114</a> <sup>28</sup>	Principles of Refrigeration - Principles of Refrigeration			2/2/0/0 PL 2/2/0/0			5
<b>Credit points</b> <sup>5)</sup>		<b>28 to 32</b>	<b>29 to 32</b>	<b>30</b>	<b>30</b>	<b>30</b>	<b>150</b>

## Annex

V	Lecture
Ü	Exercise
P	Practical course
PL	Exam performance(s)
LP	Credit Points - in brackets ( ) pro rata allocation to individual semesters according to Workload
M	Mobility window according to § 6 Paragraph 1 Sentence 4 Study Regulations
S	Seminar
SWS	Lecture hours per week
E	Excursion

- 1) Alternatively, at the student's choice, Courses with a total volume of 8 SWS including the examination performances specified according to the catalogue Interdisciplinary Technical Qualification Process Engineering and Natural Materials Technology.
  - 2) Alternatively, at the student's choice, one of five fields of study.
  - 3) Alternatively, at the student's choice, Courses totalling 4 SWS including the examination performances specified in accordance with the catalogue General and Engineering-Specific Qualifications in Process and Natural Materials Engineering.
  - 4) Alternatively, at the student's choice, Courses totalling 4 SWS including the examination performances specified in accordance with the Systems Biotechnology and Synthetic Biology catalogue.
  - 5) The distribution of credit points may vary slightly depending on the individually chosen field of study.
  - 6) Alternatively, at the student's choice, the module MW-VNT-40 or MW-VNT-43 can be chosen.
  - 7) Alternatively, at the student's choice, the module MW-VNT-110 or MW-VNT-114 can be chosen.
  - 8) Alternatively, at the student's choice, Courses with a total volume of 4 SWS including the examination performances specified according to the catalogue Automation and Control of Biotechnical Processes.
- 
- 1 Extension according to § 6 para. 6 and § 10 para. 2 Study Regulations for the Diploma Programme in Process and Natural Materials Engineering of 29 April 2019, the Bachelor Programme in Process and Natural Materials Engineering of 28 April 2019 or Diploma Postgraduate Programme in Process and Natural Materials Engineering of 15 February 2020 according to the decision of the Faculty Council of 15 April 2020 Adjustment in the field Usability.
  - 2 Extension according to § 6 para. 6 and § 10 para. 2 Study Regulations for the Diploma Programme in Process Engineering and Natural Materials Engineering of 29 April 2019, the Bachelor Programme in Process Engineering and Natural Materials Engineering of 28 April 2019 or Diploma Postgraduate Programme in Process Engineering and Natural Materials Engineering of 15 February 2020 according to the decision of the Faculty Council of 15 April 2020 Adjustment in the field Requirements for participation.
  - 3 Extension according to § 6 para. 6 and § 10 para. 2 Study Regulations for the Diploma Programme Process Engineering and Natural Materials Technology of 29 April 2019, the Bachelor Programme Process Engineering and Natural Materials Technology of 28 April 2019 or Diploma Postgraduate Programme Process Engineering and Natural Materials Technology of 15 February 2020 according to the decision of the Faculty Council of 15.04.2020 Frequency of the module.

- 4 Extension in accordance with § 6 Para. 6 and § 10 Para. 2 Study Regulations for the Diploma Programme in Process and Natural Materials Engineering of 29 April 2019 or Diploma Postgraduate Programme in Process and Natural Materials Engineering of 15 February 2020 in accordance with the resolution of the Faculty Council of 15.04.2020 Replacing the teaching offer.
- 5 Extension in accordance with § 6 Para. 6 and § 10 Para. 2 Study Regulations for the Diploma Programme in Process and Natural Materials Engineering of 29 April 2019 or Diploma Postgraduate Programme in Process and Natural Materials Engineering of 15 February 2020 in accordance with the resolution of the Faculty Council of 17.03.2021 Replacement of the teaching offer.
- 6 Extension according to § 6 para. 6 and § 10 para. 2 Study Regulations for the Diploma Programme in Process Engineering and Natural Materials Technology of 29 April 2019, the Bachelor Programme in Process Engineering and Natural Materials Technology of 28 April 2019 or the Diploma Postgraduate Programme in Process Engineering and Natural Materials Technology of 15 February 2020 in accordance with the resolution of the Faculty Council of 17 March 2021 Adjustment in the field of usability.
- 7 Extension according to § 6 Abs. 6 and § 10 Abs. 2 Studienordnung für den Diplomstudiengang Verfahrenstechnik und Naturstofftechnik vom 29. April 2019 resp. Diplom-Aufbaustudiengang Verfahrenstechnik und Naturstofftechnik vom 15. February 2020 according to the decision of the Faculty Council from 17.03.2021 Frequency of the module.
- 8 Correction of the semester-based SWS distribution.
- 9 Adjustment of assigned Courses, 24.03.2021.
- 12 Extension in accordance with § 6 Para. 6 and § 10 Para. 2 Study Regulations for the Diploma Programme in Mechanical Engineering of 17 May 2019 or Bachelor's Programme in Mechanical Engineering of 17 May 2019 or Diploma Postgraduate Programme in Mechanical Engineering of 17 January 2020 in accordance with the resolution of the Faculty Council of 21.04.2021 Adjustment in the field of usability.
- 13 Correction of SWS distribution and merging of courses.
- 14 Extension in accordance with § 6 Para. 6 and § 10 Para. 2 Study Regulations for the Diploma degree programme in Process Engineering and Natural Materials Technology dated 29 April 2019 or Diploma-postgraduate degree programme in Process Engineering and Natural Materials Technology dated 15 February 2020 in accordance with the resolution of the Faculty Council dated 20.10.2021 Replacing the range of courses.
- 15 Extension in accordance with § 6 para. 6 and § 10 para. 2 Study Regulations for the Diploma degree programme in Process Engineering and Natural Materials Technology dated 29 April 2019, the Bachelor's degree programme in Process Engineering and Natural Materials Technology dated 28 April 2019 or Diploma-postgraduate degree programme in Process Engineering and Natural Materials Technology dated 15 February 2020 in accordance with the resolution of the Faculty Council dated 20.10.2021 Adjustment in the field responsible lecturer.
- 16 Extension in accordance with § 6, para. 6 and § 10, para. 2 Study Regulations for the Diploma degree programme in Process Engineering and Natural Materials Technology dated 29 April 2019 or Diploma-postgraduate degree programme in Process Engineering and Natural Materials Technology dated 15 February 2020 in accordance with the resolution of the Faculty Council dated 20.10.2021 Adjustment in the field Usability.
- 17 Extension in accordance with § 6 Para. 6 and § 10 Para. 2 Study Regulations for the Diploma degree programme in Process Engineering and Natural Materials Technology dated 29 April 2019 or Diploma-postgraduate degree programme in Process Engineering and Natural Materials Technology dated 15 February 2020 in accordance with the resolution of the Faculty Council dated 20.10.2021 Adjustment in the field Requirements for participation.
- 19 Extension in accordance with § 6, Para. 6 and § 10, Para. 2 Study Regulations for the Diploma degree programme in Process Engineering and Natural Materials Technology dated 29 April 2019 or Diploma-postgraduate degree programme in Process Engineering and Natural Materials Technology dated 15 February 2020 in accordance with the resolution of the Faculty Council dated 20.04.2022 Adjustment in the field responsible lecturer.

- 20 Extension in accordance with § 6 Para. 6 and § 10 Para. 2 Study Regulations for the Diploma degree programme in Process Engineering and Natural Materials Technology of 29 April 2019 or Diploma-postgraduate degree programme in Process Engineering and Natural Materials Technology of 15 February 2020 in accordance with the resolution of the Faculty Council of 15.06.2022 Replacement of the teaching offer.
- 21 Extension in accordance with § 6 Para. 6 and § 10 Para. 2 Study Regulations for the Diploma degree programme in Mechanical Engineering dated 17 May 2019 or Bachelor's degree programme in Mechanical Engineering dated 17 May 2019 or Diploma-postgraduate degree programme in Mechanical Engineering dated 17 January 2020 in accordance with the resolution of the Faculty Council dated 15.06.2022 Adjustment in the field Usability.
- 22 Extension in accordance with § 6 Para. 6 and § 10 Para. 2 Study Regulations for the Diploma degree programme in Process Engineering and Natural Materials Technology of 29 April 2019 or Diploma-postgraduate degree programme in Process Engineering and Natural Materials Technology of 15 February 2020 in accordance with the resolution of the Faculty Council of 19.10.2022 Replacement of the teaching offer.
- 23 Extension in accordance with § 6 para. 6 and § 10 para. 2 Study Regulations for the Diploma degree programme in Process Engineering and Natural Materials Technology dated 29 April 2019, the Bachelor's degree programme in Process Engineering and Natural Materials Technology dated 28 April 2019 or Diploma-postgraduate degree programme in Process Engineering and Natural Materials Technology dated 15 February 2020 in accordance with the resolution of the Faculty Council dated 19.10.2021 Adjustment in the field Usability.
- 24 Extension in accordance with § 6, Para. 6 and § 10, Para. 2 Study Regulations for the Diploma degree programme in Process Engineering and Natural Materials Technology dated 29 April 2019 or Bachelor's degree programme in Process Engineering and Natural Materials Technology dated 28 April 2019 in accordance with the resolution of the Faculty Council dated 19.10.2022 Adjustment in the field responsible lecturer.
- 25 Extension in accordance with § 6, Para. 6 and § 10, Para. 2 Study Regulations for the Diploma degree programme in Process Engineering and Natural Materials Technology dated 29 April 2019 or Diploma-postgraduate degree programme in Process Engineering and Natural Materials Technology dated 15 February 2020 in accordance with the resolution of the Faculty Council dated 19.10.2022 addition to the teaching offer.
- 26 Correction of the assigned courses, 19.10.2022.
- 27 Extension in accordance with § 6, Para. 6 and § 10, Para. 2 Study Regulations for the Diploma degree programme in Process Engineering and Natural Materials Technology dated 29 April 2019 or Diploma-postgraduate degree programme in Process Engineering and Natural Materials Technology dated 15 February 2020 in accordance with the resolution of the Faculty Council dated 19.10.2022 termination of the teaching offer.
- 28 Extension in accordance with § 6, Para. 6 and § 10, Para. 2 Study Regulations for the Diploma degree programme in Process Engineering and Natural Materials Technology dated 29 April 2019 or Bachelor's degree programme in Process Engineering and Natural Materials Technology dated 28 April 2019 in accordance with the resolution of the Faculty Council dated 19.04.2023 Adjustment in the field responsible lecturer.
- 29 Extension in accordance with § 6, Para. 6 and § 10, Para. 2 Study Regulations for the Diploma degree programme in Process Engineering and Natural Materials Technology dated 29 April 2019 or Diploma-postgraduate degree programme in Process Engineering and Natural Materials Technology dated 15 February 2020 in accordance with the resolution of the Faculty Council dated 17.05.2023 Specify in the field requirements for the award of credit points according to the requirements of the accreditation process.
- 30 Extension in accordance with § 6, Para. 6 and § 10, Para. 2 Study Regulations for the Diploma degree programme in Process Engineering and Natural Materials Technology dated 29 April 2019 or Diploma-postgraduate degree programme in Process Engineering and Natural Materials Technology dated 15 February 2020 in accordance with the resolution of the Faculty Council dated 18.10.2023 – No offer in WiSe 2023/2024.
- 31 Extension in accordance with § 6, Para. 6 and § 10, Para. 2 Study Regulations for the Diploma degree programme in Process Engineering and Natural Materials Technology dated 29 April 2019 or Diploma-postgraduate degree programme in Process Engineering and Natural Materials Technology dated 15 February 2020 in accordance with the resolution of the Faculty Council dated 15.11.2023 Specify in the field requirements for the award of credit points according to the requirements of the accreditation process.
- 33 Adjustment of the semester-based SWS allocation and the assigned course in winter semester 2024/2025 and winter semester 2025/2026, 17.04.2024.
- 34 Adjustment of the assigned course, 17.04.2024.
- 35 Extension in accordance with § 6, Para. 6 and § 10, Para. 2 Study Regulations for the Diploma degree programme in Process Engineering and Natural Materials Technology dated 29 April 2019 or Bachelor's degree programme in Process Engineering and Natural Materials Technology dated 28 April 2019 in accordance with the resolution of the Faculty Council dated 17.04.2024 Adjustment in the field responsible lecturer.