## Doktorský studijní program P3106 – Textilní inženýrství

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### Obor: Textilní technika a materiálové inženýrství

**DSP – přírodovědný základ povinně volitelné předměty (B)**

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| **Název předmětu** | **Zkratka** | **Rozsah****Př.+Cv.** | **Zakončení** | **Ročník** | **Semestr** |
| Matematická statistika a analýza dat | KAP/D02 | 2+0 | Zk | **1** | **ZS** |
| Vybrané numerické metody | KAP/D40 | 2+0 | Zk | **1** | **ZS** |
| Vybrané partie z řešení dif. rovnic | KAP/D41 | 2+0 | Zk | **1** | **LS** |

Student volí jeden předmět z nabídky.

**DSP – aplikovaný základ povinně volitelné předměty (B)**

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| **Název předmětu** | **Zkratka** | **Rozsah****Př.+Cv.** | **Zakončení** | **Ročník** | **Semestr** |
| Makromolekulární chemie | [KNT/D18](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY5Rb4IwHMQ_Uv-0QsdjrRuw2CJr64AXwiJByRSyMLD99MPEV-fd4-XufqhEiy_1dGrr8dRf6m-UozKoaJpFZLfBkCpOAJPUeP7mDYDhJS-CikcsXtEtQESxD1j6Cgu2B0jIk_YnymFVqe5lEHbMt45PunOZldpYQQ1IVzgZ6t1h_2HWjLfHofGWTnlb_e_zlsMDMUAy7s8NKlBJH7JlgPSdzfa_Sl3fQxOMXlKZUWdWdAWWLpnlj5ilfiXSLazh151zfeV506LhbKYhnuEPL2qVQQ%21%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC9EbDE4ejc5NzYwMTEzLzI1NTI2NzUzMzM4NC9wcmVkbWV0WmtyUHJlZC9EMTgvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0tOVC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL1pTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **1** | **ZS** |
| Mechanika vlákenných útvarů | [DFT/D43](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY5Rb4IwHMQ_Uv-0QsdjrRuw2CJr64AXwiJByRSyMLD99MPEV-fd4-XufqhEiy_1dGrr8dRf6m-UozKoaJpFZLfBkCpOAJPUeP7mDYDhJS-CikcsXtEtQESxD1j6Cgu2B0jIk_YnymFVqe5lEHbMt45PunOZldpYQQ1IVzgZ6t1h_2HWjLfHofGWTnlb_e_zlsMDMUAy7s8NKlBJH7JlgPSdzfa_Sl3fQxOMXlKZUWdWdAWWLpnlj5ilfiXSLazh151zfeV506LhbKYhnuEPL2qVQQ%21%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC9FbDE4ejc5NzYwMTE0LzI1NTI2NzUzMzM4NC9wcmVkbWV0WmtyUHJlZC9ENDMvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0RGVC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL1pTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **1** | **ZS** |
| Optika pevných látek | [KMI/D05](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY5Rb4IwHMQ_Uv-0QsdjrRuw2CJr64AXwiJByRSyMLD99MPEV-fd4-XufqhEiy_1dGrr8dRf6m-UozKoaJpFZLfBkCpOAJPUeP7mDYDhJS-CikcsXtEtQESxD1j6Cgu2B0jIk_YnymFVqe5lEHbMt45PunOZldpYQQ1IVzgZ6t1h_2HWjLfHofGWTnlb_e_zlsMDMUAy7s8NKlBJH7JlgPSdzfa_Sl3fQxOMXlKZUWdWdAWWLpnlj5ilfiXSLazh151zfeV506LhbKYhnuEPL2qVQQ%21%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC9YbDE4ejc5NzYwMTE1LzI1NTI2NzUzMzM4NC9wcmVkbWV0WmtyUHJlZC9EMDUvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0tNSS9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **1** | **ZS** |
| Strukturní mechanika vlákenných systémů | [KTT/D51](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY5Rb4IwHMQ_Uv-0QsdjrRuw2CJr64AXwiJByRSyMLD99MPEV-fd4-XufqhEiy_1dGrr8dRf6m-UozKoaJpFZLfBkCpOAJPUeP7mDYDhJS-CikcsXtEtQESxD1j6Cgu2B0jIk_YnymFVqe5lEHbMt45PunOZldpYQQ1IVzgZ6t1h_2HWjLfHofGWTnlb_e_zlsMDMUAy7s8NKlBJH7JlgPSdzfa_Sl3fQxOMXlKZUWdWdAWWLpnlj5ilfiXSLazh151zfeV506LhbKYhnuEPL2qVQQ%21%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC9TbDE4ejc5NzYwMTE2LzI1NTI2NzUzMzM4NC9wcmVkbWV0WmtyUHJlZC9ENTEvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0tUVC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **1** | **ZS** |
| Fyzikálněchemické modelování  | DFT/D42 | 2+0 | Zk | **1** | **LS** |
| Přenos tepla v porézních strukturách | [KHT/D17](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY5Rb4IwHMQ_Uv-0QsdjrRuw2CJr64AXwiJByRSyMLD99MPEV-fd4-XufqhEiy_1dGrr8dRf6m-UozKoaJpFZLfBkCpOAJPUeP7mDYDhJS-CikcsXtEtQESxD1j6Cgu2B0jIk_YnymFVqe5lEHbMt45PunOZldpYQQ1IVzgZ6t1h_2HWjLfHofGWTnlb_e_zlsMDMUAy7s8NKlBJH7JlgPSdzfa_Sl3fQxOMXlKZUWdWdAWWLpnlj5ilfiXSLazh151zfeV506LhbKYhnuEPL2qVQQ%21%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC9VbDE4ejc5NzYwMTE4LzI1NTI2NzUzMzM4NS9wcmVkbWV0WmtyUHJlZC9EMTcvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0tIVC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/)  | 2+0 | Zk | **1** | **LS** |
| Vybrané statě z dynamiky textil. strojů | [DFT/D44](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY5Rb4IwHMQ_Uv-0QsdjrRuw2CJr64AXwiJByRSyMLD99MPEV-fd4-XufqhEiy_1dGrr8dRf6m-UozKoaJpFZLfBkCpOAJPUeP7mDYDhJS-CikcsXtEtQESxD1j6Cgu2B0jIk_YnymFVqe5lEHbMt45PunOZldpYQQ1IVzgZ6t1h_2HWjLfHofGWTnlb_e_zlsMDMUAy7s8NKlBJH7JlgPSdzfa_Sl3fQxOMXlKZUWdWdAWWLpnlj5ilfiXSLazh151zfeV506LhbKYhnuEPL2qVQQ%21%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC9ObDE4ejc5NzYwMTE5LzI1NTI2NzUzMzM4NS9wcmVkbWV0WmtyUHJlZC9ENDQvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0RGVC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **1** | **LS** |

Student volí jeden předmět z nabídky.

**DSP – základ oboru povinně volitelné předměty (B)**

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| **Název předmětu** | **Zkratka** | **Rozsah****Př.+Cv.** | **Zakončení** | **Ročník** | **Semestr** |
| Nanovlákna a nanotechnologie | [KNT/D42](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY7dboJAFISfqDnHXWHr5RZaoHEXcc_Kzw0hsWkkVdBSEJ6-mLSXtjOXk5n5oIDZp6o_vFfdoTlVH5BB4ZYiTgK-8RnGxuPIeGwXjv-CKNmc527pBTJcijViIJiDTDuGKblDjPg_7RQyXJamfmzV2GXryeupnpJRk2Wacq6EHNSeNvvd1j5J78xqquZOcVv96_OW4x1JBB02xzfIoRB32RIE-mEbmy9jrq8r63aLqLQdJaOqc6anaNAXNWh65npK8VP_cvoP6Zk4tEfbt-GA3xrBpzw%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC91SVV4TjE0NjgwMTk5LzI1NTM1MzgzMjE1Ni9wcmVkbWV0WmtyUHJlZC9ENDIvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0tOVC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL1pTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **2** | **ZS** |
| Oděvní komfort | [KHT/D52](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY7dboJAFISfqDnHXWHr5RZaoHEXcc_Kzw0hsWkkVdBSEJ6-mLSXtjOXk5n5oIDZp6o_vFfdoTlVH5BB4ZYiTgK-8RnGxuPIeGwXjv-CKNmc527pBTJcijViIJiDTDuGKblDjPg_7RQyXJamfmzV2GXryeupnpJRk2Wacq6EHNSeNvvd1j5J78xqquZOcVv96_OW4x1JBB02xzfIoRB32RIE-mEbmy9jrq8r63aLqLQdJaOqc6anaNAXNWh65npK8VP_cvoP6Zk4tEfbt-GA3xrBpzw%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC9QZ1V4TjE0NjgwMjAwLzI1NTM1MzgzMjE1Ny9wcmVkbWV0WmtyUHJlZC9ENTIvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0tIVC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **2** | **ZS** |
| Praktická stereologie | [KNT/D44](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY7dboJAFISfqDnHXWHr5RZaoHEXcc_Kzw0hsWkkVdBSEJ6-mLSXtjOXk5n5oIDZp6o_vFfdoTlVH5BB4ZYiTgK-8RnGxuPIeGwXjv-CKNmc527pBTJcijViIJiDTDuGKblDjPg_7RQyXJamfmzV2GXryeupnpJRk2Wacq6EHNSeNvvd1j5J78xqquZOcVv96_OW4x1JBB02xzfIoRB32RIE-mEbmy9jrq8r63aLqLQdJaOqc6anaNAXNWh65npK8VP_cvoP6Zk4tEfbt-GA3xrBpzw%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC81Z1V4TjE0NjgwMjAxLzI1NTM1MzgzMjE1Ny9wcmVkbWV0WmtyUHJlZC9ENDQvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0tOVC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL1pTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **2** | **ZS** |
| Sorpční procesy | [KMI/D13](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY7dboJAFISfqDnHXWHr5RZaoHEXcc_Kzw0hsWkkVdBSEJ6-mLSXtjOXk5n5oIDZp6o_vFfdoTlVH5BB4ZYiTgK-8RnGxuPIeGwXjv-CKNmc527pBTJcijViIJiDTDuGKblDjPg_7RQyXJamfmzV2GXryeupnpJRk2Wacq6EHNSeNvvd1j5J78xqquZOcVv96_OW4x1JBB02xzfIoRB32RIE-mEbmy9jrq8r63aLqLQdJaOqc6anaNAXNWh65npK8VP_cvoP6Zk4tEfbt-GA3xrBpzw%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC82Z1V4TjE0NjgwMjAyLzI1NTM1MzgzMjE1Ny9wcmVkbWV0WmtyUHJlZC9EMTMvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0tNSS9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **2** | **ZS** |
| Struktura a vlastnosti textilních vláken | [KMI/D07](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY7dboJAFISfqDnHXWHr5RZaoHEXcc_Kzw0hsWkkVdBSEJ6-mLSXtjOXk5n5oIDZp6o_vFfdoTlVH5BB4ZYiTgK-8RnGxuPIeGwXjv-CKNmc527pBTJcijViIJiDTDuGKblDjPg_7RQyXJamfmzV2GXryeupnpJRk2Wacq6EHNSeNvvd1j5J78xqquZOcVv96_OW4x1JBB02xzfIoRB32RIE-mEbmy9jrq8r63aLqLQdJaOqc6anaNAXNWh65npK8VP_cvoP6Zk4tEfbt-GA3xrBpzw%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC8zZ1V4TjE0NjgwMjAzLzI1NTM1MzgzMjE1Ny9wcmVkbWV0WmtyUHJlZC9EMDcvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0tNSS9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL1pTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **2** | **ZS** |
| Strukturní teorie vlákenných soustav | [KTT/D11](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY7dboJAFISfqDnHXWHr5RZaoHEXcc_Kzw0hsWkkVdBSEJ6-mLSXtjOXk5n5oIDZp6o_vFfdoTlVH5BB4ZYiTgK-8RnGxuPIeGwXjv-CKNmc527pBTJcijViIJiDTDuGKblDjPg_7RQyXJamfmzV2GXryeupnpJRk2Wacq6EHNSeNvvd1j5J78xqquZOcVv96_OW4x1JBB02xzfIoRB32RIE-mEbmy9jrq8r63aLqLQdJaOqc6anaNAXNWh65npK8VP_cvoP6Zk4tEfbt-GA3xrBpzw%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC80Z1V4TjE0NjgwMjA0LzI1NTM1MzgzMjE1Ny9wcmVkbWV0WmtyUHJlZC9EMTEvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0tUVC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL1pTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **2** | **ZS** |
| Textilní chemie | [KMI/D24](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY7dboJAFISfqDnHXWHr5RZaoHEXcc_Kzw0hsWkkVdBSEJ6-mLSXtjOXk5n5oIDZp6o_vFfdoTlVH5BB4ZYiTgK-8RnGxuPIeGwXjv-CKNmc527pBTJcijViIJiDTDuGKblDjPg_7RQyXJamfmzV2GXryeupnpJRk2Wacq6EHNSeNvvd1j5J78xqquZOcVv96_OW4x1JBB02xzfIoRB32RIE-mEbmy9jrq8r63aLqLQdJaOqc6anaNAXNWh65npK8VP_cvoP6Zk4tEfbt-GA3xrBpzw%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC85Z1V4TjE0NjgwMjA1LzI1NTM1MzgzMjE1OC9wcmVkbWV0WmtyUHJlZC9EMjQvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0tNSS9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **2** | **ZS** |
| Tkáňové inženýrství | KNT/D40 | 2+0 | Zk | **2** | **ZS** |
| Chemické a termické technologie výroby NT | [KNT/D25](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY7dboJAFISfqDnHXWHr5RZaoHEXcc_Kzw0hsWkkVdBSEJ6-mLSXtjOXk5n5oIDZp6o_vFfdoTlVH5BB4ZYiTgK-8RnGxuPIeGwXjv-CKNmc527pBTJcijViIJiDTDuGKblDjPg_7RQyXJamfmzV2GXryeupnpJRk2Wacq6EHNSeNvvd1j5J78xqquZOcVv96_OW4x1JBB02xzfIoRB32RIE-mEbmy9jrq8r63aLqLQdJaOqc6anaNAXNWh65npK8VP_cvoP6Zk4tEfbt-GA3xrBpzw%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC83Z1V4TjE0NjgwMjA3LzI1NTM1MzgzMjE1OC9wcmVkbWV0WmtyUHJlZC9EMjUvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0tOVC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **2** | **LS** |
| Projektování textilií  | [KMI/D20](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY7dboJAFISfqDnHXWHr5RZaoHEXcc_Kzw0hsWkkVdBSEJ6-mLSXtjOXk5n5oIDZp6o_vFfdoTlVH5BB4ZYiTgK-8RnGxuPIeGwXjv-CKNmc527pBTJcijViIJiDTDuGKblDjPg_7RQyXJamfmzV2GXryeupnpJRk2Wacq6EHNSeNvvd1j5J78xqquZOcVv96_OW4x1JBB02xzfIoRB32RIE-mEbmy9jrq8r63aLqLQdJaOqc6anaNAXNWh65npK8VP_cvoP6Zk4tEfbt-GA3xrBpzw%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC84Z1V4TjE0NjgwMjA4LzI1NTM1MzgzMjE1OC9wcmVkbWV0WmtyUHJlZC9EMjAvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0tNSS9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **2** | **LS** |
| Simulace technologických procesů  | [KOD/D15](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY7dboJAFISfqDnHXWHr5RZaoHEXcc_Kzw0hsWkkVdBSEJ6-mLSXtjOXk5n5oIDZp6o_vFfdoTlVH5BB4ZYiTgK-8RnGxuPIeGwXjv-CKNmc527pBTJcijViIJiDTDuGKblDjPg_7RQyXJamfmzV2GXryeupnpJRk2Wacq6EHNSeNvvd1j5J78xqquZOcVv96_OW4x1JBB02xzfIoRB32RIE-mEbmy9jrq8r63aLqLQdJaOqc6anaNAXNWh65npK8VP_cvoP6Zk4tEfbt-GA3xrBpzw%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC9FZ1V4TjE0NjgwMjA5LzI1NTM1MzgzMjE1OS9wcmVkbWV0WmtyUHJlZC9EMTUvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0tPRC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **2** | **LS** |
| Simulace v materiálovém inženýrství  | [KNT/D21](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY7dboJAFISfqDnHXWHr5RZaoHEXcc_Kzw0hsWkkVdBSEJ6-mLSXtjOXk5n5oIDZp6o_vFfdoTlVH5BB4ZYiTgK-8RnGxuPIeGwXjv-CKNmc527pBTJcijViIJiDTDuGKblDjPg_7RQyXJamfmzV2GXryeupnpJRk2Wacq6EHNSeNvvd1j5J78xqquZOcVv96_OW4x1JBB02xzfIoRB32RIE-mEbmy9jrq8r63aLqLQdJaOqc6anaNAXNWh65npK8VP_cvoP6Zk4tEfbt-GA3xrBpzw%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC91dFV4TjE0NjgwMjEwLzI1NTM1MzgzMjE1OS9wcmVkbWV0WmtyUHJlZC9EMjEvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0tOVC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **2** | **LS** |
| Teorie zkušebních metod a zpracování dat  | [KMI/D08](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY7dboJAFISfqDnHXWHr5RZaoHEXcc_Kzw0hsWkkVdBSEJ6-mLSXtjOXk5n5oIDZp6o_vFfdoTlVH5BB4ZYiTgK-8RnGxuPIeGwXjv-CKNmc527pBTJcijViIJiDTDuGKblDjPg_7RQyXJamfmzV2GXryeupnpJRk2Wacq6EHNSeNvvd1j5J78xqquZOcVv96_OW4x1JBB02xzfIoRB32RIE-mEbmy9jrq8r63aLqLQdJaOqc6anaNAXNWh65npK8VP_cvoP6Zk4tEfbt-GA3xrBpzw%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC9qdFV4TjE0NjgwMjExLzI1NTM1MzgzMjE1OS9wcmVkbWV0WmtyUHJlZC9EMDgvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0tNSS9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **2** | **LS** |
| Transportní procesy při tvarování  | [KOD/D16](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY7dboJAFISfqDnHXWHr5RZaoHEXcc_Kzw0hsWkkVdBSEJ6-mLSXtjOXk5n5oIDZp6o_vFfdoTlVH5BB4ZYiTgK-8RnGxuPIeGwXjv-CKNmc527pBTJcijViIJiDTDuGKblDjPg_7RQyXJamfmzV2GXryeupnpJRk2Wacq6EHNSeNvvd1j5J78xqquZOcVv96_OW4x1JBB02xzfIoRB32RIE-mEbmy9jrq8r63aLqLQdJaOqc6anaNAXNWh65npK8VP_cvoP6Zk4tEfbt-GA3xrBpzw%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC9sdFV4TjE0NjgwMjEyLzI1NTM1MzgzMjE1OS9wcmVkbWV0WmtyUHJlZC9EMTYvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0tPRC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **2** | **ZS, LS** |

Student volí jeden předmět z nabídky.

**DSP povinné předměty (A)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Název předmětu** | **Zkratka** | **Rozsah****Př.+Cv.** | **Zakončení** | **Ročník** | **Semestr** |
| Experimentální technika oboru | [DFT/D33](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY5Bc4IwFIR_0nsGIe0xYgU65iFNYoELQ8dOx7QCdSIUfn1xxqvt7nFndz8oYXZT98eP2h3bpv6CHMqg4mkWebs1w1SFHjIvNQt_vUEUbM6LoAojES_5FjHizEdGvmJS7BET75_2K-S4rJR96OTo8u0U9tpO2UjaMHorBrIJ0iHfHfYvZiVE0_BvO3fK6-pfn9cc70ggUNye3qGAkt9lyxD0jW1sL0r9PD-awC2SyjidjdIWjKZkoLMcSD95NBmULr5xri6bz3MP3cn0XTzgL1zDWeE%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC8ydFV4TjE0NjgwMjIwLzI1NTM1NTIzNDM5MS9wcmVkbWV0WmtyUHJlZC9EMzMvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0RGVC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 2+0 | Zk | **3** | **ZS** |
| Specializace v oboru | DFT/D30 | 2+0 | Zk | **3** | **LS** |

Student musí splnit oba předměty.

**DSP – stáže nepovinné předměty (C)**

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| **Název předmětu** | **Zkratka** | **Rozsah****Př.+Cv.** | **Zakončení** | **Ročník** | **Semestr** |
| Stáž v podniku I  | [DFT/D60](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY5Rb4IwFIV_0r22AttjhQ0wtsjaKvDSsMwY2RSydLD21w8TX5335D6dnHM-aGDWpR1Px9ae-kv7BRU0oYmKMqXbhGAhY4qEFnoRJK-IjMx-HZo4Zdky2iCmEQmQiEASznaIOX2Q3kOFSyO7p4E7W218PKrOl04oTeZ3okuJEMn2Y_emV2zlA9rnc6a5tv63efXxzjEEkfXnA9TQRHfZSgR1Y3P9j5S_62cd2kVutFWl411NhM8n8c0noV6o8Bq5fb9xJvv1p3EwnPU4ZBP-ARWBiCk%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC83dFV4TjE0NjgwMjI5LzI1NTM1NTI1ODAyNy9wcmVkbWV0WmtyUHJlZC9ENjAvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0RGVC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 12T | Zp | **3** | **ZS, LS** |
| Stáž v podniku II  | [DFT/D61](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY5Rb4IwFIV_0r22AttjhQ0wtsjaKvDSsMwY2RSydLD21w8TX5335D6dnHM-aGDWpR1Px9ae-kv7BRU0oYmKMqXbhGAhY4qEFnoRJK-IjMx-HZo4Zdky2iCmEQmQiEASznaIOX2Q3kOFSyO7p4E7W218PKrOl04oTeZ3okuJEMn2Y_emV2zlA9rnc6a5tv63efXxzjEEkfXnA9TQRHfZSgR1Y3P9j5S_62cd2kVutFWl411NhM8n8c0noV6o8Bq5fb9xJvv1p3EwnPU4ZBP-ARWBiCk%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC9tdlV4TjE0NjgwMjMwLzI1NTM1NTI1ODAyNy9wcmVkbWV0WmtyUHJlZC9ENjEvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0RGVC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 12T | Zp | **3** | **ZS, LS** |
| Stáž v zahraničí I  | [DFT/D62](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY5Rb4IwFIV_0r22AttjhQ0wtsjaKvDSsMwY2RSydLD21w8TX5335D6dnHM-aGDWpR1Px9ae-kv7BRU0oYmKMqXbhGAhY4qEFnoRJK-IjMx-HZo4Zdky2iCmEQmQiEASznaIOX2Q3kOFSyO7p4E7W218PKrOl04oTeZ3okuJEMn2Y_emV2zlA9rnc6a5tv63efXxzjEEkfXnA9TQRHfZSgR1Y3P9j5S_62cd2kVutFWl411NhM8n8c0noV6o8Bq5fb9xJvv1p3EwnPU4ZBP-ARWBiCk%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC9pdlV4TjE0NjgwMjMxLzI1NTM1NTI1ODAyNy9wcmVkbWV0WmtyUHJlZC9ENjIvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0RGVC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 12T | Zp | **3** | **ZS, LS** |
| Stáž v zahraničí II  | [DFT/D63](https://stag-new.tul.cz/wps/myportal/%21ut/p/c5/hY5Rb4IwFIV_0r22AttjhQ0wtsjaKvDSsMwY2RSydLD21w8TX5335D6dnHM-aGDWpR1Px9ae-kv7BRU0oYmKMqXbhGAhY4qEFnoRJK-IjMx-HZo4Zdky2iCmEQmQiEASznaIOX2Q3kOFSyO7p4E7W218PKrOl04oTeZ3okuJEMn2Y_emV2zlA9rnc6a5tv63efXxzjEEkfXnA9TQRHfZSgR1Y3P9j5S_62cd2kVutFWl411NhM8n8c0noV6o8Bq5fb9xJvv1p3EwnPU4ZBP-ARWBiCk%21/dl3/d3/L0lDU0lKSmdwcGlRb0tVUW9LVVFvS1VRb0tVUW9LVVFvS1VSZy9ZTTBJQUFJSUlJTU1JQ0tDRUFBSUFDR0lLQUdJT0JKQkpPQkZORk5PRkRMRExPREhQSFBPSEFvZ291QWtza3N1RWlpRUFNQUFBQSEhLzRDMWI5V19OcjBnQ1VneEVtUkNVd3BNaEVwUlNaR0pUaWt5Q1NrbEprVWxOS1RJWktXUSEvN183T1FHM1BEMjBPU0MzMDIzT1UxNURGMDBRMC91dlV4TjE0NjgwMjMyLzI1NTM1NTI1ODAyNy9wcmVkbWV0WmtyUHJlZC9ENjMvcHJlZG1ldFJvay8yMDE0L3ByZWRtZXRaa3JQcmFjL0RGVC9wcm9obGl6ZW5pQWN0aW9uL2N6LnpjdS5zdGFnLnBvcnRsZXRzMTY4LnByb2hsaXplbmkucHJlZG1ldC5QcmVkbWV0RGV0YWlsQWN0aW9uL3ByZWRtZXRTZW1lc3RyL0xTL2RldGFpbC9wcmVkbWV0U3lsYWJ1cw%21%21/) | 12T | Zp | **3** | **ZS, LS** |