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**DOCTORAL DEGREE REQUIREMENTS**

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General policies for all University of Oklahoma doctoral programs are available in the [Graduate College Bulletin](#).

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**DOCTOR of PHILOSOPHY**

D170/R034

**MAJOR:** Chemistry and Biochemistry

**CONCENTRATION:** Analytical Chemistry

Program effective **Summer 2023**

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**COURSEWORK REQUIREMENTS**

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**REQUIRED COURSEWORK**

|   |   |                   |
|---|---|-------------------|
| <input type="checkbox"/> CHEM 5090  | Departmental Colloquium (continuous enrollment required)..... | 0 hours           |
| <input type="checkbox"/> CHEM 5011  | Fundamentals I.....   | 1 hours           |
| <input type="checkbox"/> CHEM 5021  | Fundamentals II.....  | 1 hours           |
| <input type="checkbox"/> CHEM 5080  | Laboratory Rotations .....                                    | 2 hours           |
| <input type="checkbox"/> CHEM 5191  | Seminar in Analytical Chemistry.....                          | 1-12 hours        |
| Continuous enrollment in 5191 is required after the first semester, up to 12 credits or 90 total degree credit are reached. |   |                   |
| <b>Total.....</b>   |   | <b>5-16 hours</b> |

**CORE COURSES**

|                                    |  |                |
|------------------------------------|--|----------------|
| <input type="checkbox"/> CHEM 5100 | Instrumental Methods of Analysis ..... | 2 hours        |
| <input type="checkbox"/> CHEM 5110 | Spectroscopic Chemical Analysis .....  | 3 hours        |
| <input type="checkbox"/> CHEM 5120 | Separation Methods .....               | 3 hours        |
| <b>Total.....</b>                  |  | <b>8 hours</b> |

**Elective Coursework**

Additional 5000- and/or 60000-level coursework: minimum of 8 hours of coursework as approved by the Ph.D. advisory committee so that the total number of letter-graded hours of core and electives combined equals a minimum of 16 hours. The additional coursework may include other concentrations in CHEM; out-of-department coursework; or transfer credits from accredited college or university. At least 1 course (2 credit hours) must come from within the department (CHEM) but from a concentration outside the student's core courses.

|                   |  |                 |
|-------------------|--|-----------------|
| <b>Total.....</b> |  | <b>8+ hours</b> |
|-------------------|--|-----------------|

**Directed Studies**

Up to 9 hours of CHEM 5990 or 6 hours of CHEM 5960 can be used for degree requirements.

|                   |  |                  |
|-------------------|--|------------------|
| <b>Total.....</b> |  | <b>0-9 hours</b> |
|-------------------|--|------------------|

**Dissertation Research**

|                                    |  |                 |
|------------------------------------|--|-----------------|
| <input type="checkbox"/> CHEM 6980 | Research for Doctoral Dissertation ..... | <b>2+ hours</b> |
| 2 hours minimum.                   |  |                 |

|  |  |                 |
|--|--|-----------------|
| <input type="checkbox"/> <b>TOTAL.....</b> |  | <b>90 hours</b> |
|--|--|-----------------|