

**Articulation Information for Students to Transfer from
Cuyahoga Community College to the
Department of Civil Engineering at The University of Toledo**

**Department of Civil Engineering
Mail Stop 307 The University of Toledo
Toledo, OH 43606-3390**

**Undergraduate Program Director: Andrew G. Heydinger, PhD., P.E.
Email:andrew.heydinger@utoledo.edu Telephone: 419-530-8133**

Included below is information for students at Cuyahoga Community College (CCC) who are considering transferring to the Bachelor of Science in Civil Engineering Program at The University of Toledo (UTOL). You will find here information about the courses that will count toward this program, how to have these courses transferred, how to apply for admission to The University of Toledo, and some information about our mandatory co-op education program. For questions, please contact Dr. Heydinger or our Academic Program Coordinator, Ms. Vandra Robinson at 419-530-8114 or at vandra.robinson@utoledo.edu.

CIVIL ENGINEERING VERSUS CONSTRUCTION ENGINEERING TECHNOLOGY

There is a Civil Engineering and a Construction Engineering program at The University of Toledo. The Bachelor of Science in Civil Engineering (BSCE) is a four-and-a-half-year program with three required co-op terms. This program has a strong emphasis on *mathematics* and *calculus-based physics*. Classes are primarily taught during the day and are aimed at full-time student enrollment with alternating co-op terms beginning in the second year. This fully accredited program enables students to realize excellent careers in design, construction, project engineering, project management, sales, research and development, and many others. You can visit our site at <http://www.eng.utoledo.edu/civil/>.

Construction Engineering Technology (CET) is also a Bachelor of Science program. CET has a strong emphasis on *application* and *hands-on engineering*. Classes are scheduled for both day students and evening students and are aimed at either full-time or part-time student enrollment. Co-op experience for the construction engineering technology program is optional. Traditionally, many students who are already employed in some form of engineering take classes in this program while working at their job. This fully accredited program enables students to start or continue excellent careers in the construction or civil engineering industry. However, positions requiring advanced mathematics and calculus-based physics are not normally open for graduates in CET. Students who have an Associates of Applied Science (AAS) degree will be able to transfer their credits for a Bachelor of Science degree in Construction Engineering Technology. If you are interested in the Bachelor of Science in Construction Engineering Technology program at The University of Toledo, please contact the CET Program Director, Dr. Nicholas Kissoff at nicholas.kissoff@utoledo.edu or at 419-530-3165. You can visit our site at <http://www.cet.et.utoledo.edu/>.

MINIMUM REQUIREMENTS FOR ADMISSION TO THE BSCE DEGREE PROGRAM

In order to be accepted in the BSCE program you must have attained a cumulative GPA of at least 2.75, and must have completed Calculus I and College Chemistry with a grade of C or higher.

THE CO-OP PROGRAM

One of the degree requirements for the BSCE is three full semesters of satisfactory full time engineering work at a company. Our office in charge of the co-op program is called the Engineering Career Management Center (ECMC) and helps students find positions in companies locally, across the United States and Canada, and for some students, in foreign countries. Transfer students needing the assistance of our ECMC will normally have their first co-op semester after they have been enrolled at UTOL for at least one semester. In any case, your first co-op term will be determined based on the courses you have completed, the courses you need to take and when they will be offered.

HOW AND WHERE TO APPLY FOR ADMISSION

To apply for admission, contact the Office of Admissions [419-530-5757] or apply on our website: <http://admission.utoledo.edu/>. Be sure to indicate that you are a transfer student. The Office of Admissions will require an official transcript sent directly from the records office at your school and will base your admission on the requirements listed above. Note: if you are still in attendance, you will eventually need to have a second transcript sent which will include the grades in the courses you are currently taking in order to award you credit for these courses.

RECOMMENDED COURSES TO TAKE AND THEIR UTOL EQUIVALENTS

The following table lists courses at CCC and their UTOL equivalents. Also indicated is the recommendation level. Courses not included in the BSCE curriculum at The University of Toledo will not apply to the BSCE degree.

| Course | Course Number | | Required to Transfer | Take at Either School | Other Possibilities |
|---|-------------------------|---------------------------|----------------------|-----------------------|---------------------|
| | CCC | U Toledo | | | |
| Calculus I | MTH 1610 | MATH 1850 | X | | |
| Chemistry I | CHEM 1300 | CHEM 1230 | X | | |
| Science Elective (Must not be Chemistry or Physics) | | | | X | |
| Calculus II | MTH 1620 | MATH 1860 | | X | |
| Calculus III | MTH 2310 | MATH 2850 | | X | |
| Num. Methods and Lin. Algebra | NONE | MATH 2890 | | | |
| Differential Equations | MTH 2520 | MATH 3860 | | X | |
| English Composition | ENG 1010 | ENGL 1110 | | X | |
| Technical Writing | ENG 2150 or ENG 2151 | ENGL 2950 or ENGL 2960 | | X | |
| Physics I | PHY 2310 | PHYS 2130 | | X | |
| Physics II | PHY 2320 | PHYS 2140 | | X | |
| Surveying | CNST 2110 | CIVE 1100 CIVE 1110 | | X | |

| | | | | | |
|-------------------------------|--|--|--|--|---|
| Humanities/Fine Arts | HIST, PHIL, REL, MUS, etc. Required to take two courses from two different departments. | | | | X |
| Social Science | ECON, PSY, PSC, ANTH, etc. Required to take two courses from two different departments. | | | | X |
| Diversity of U.S. Culture | Variety of courses. One course required. | | | | X |
| Diversity of Non-U.S. Culture | Variety of courses. One course required. | | | | X |

Note: One diversity course can also count for a Humanities/Fine Arts or Social Science elective credit. Thus, a student takes a total of five courses to fulfill requirements for Humanities / Fine Arts, Social Sciences and Multicultural (Diversity) Studies.

Information on Humanities / Fine Arts, Social Sciences and Multicultural (Diversity) Studies requirements can be found at: <http://www.eng.utoledo.edu/civil/multicultural.pdf>

Information on the Course Applicability System (CAS)

The CAS website provides current course equivalencies for transfer students. To access the CAS, go to the CAS website <https://oh.transfer.org/cas/index.jsp> and select New Account and complete the required information to set up an account. After your account is set up, select Member. There are several options that you can select including entering the courses that you have taken and preparing a planning guide. The planning guide will enable you to see all courses offered at your institution that will count towards a B.S. in Civil Engineering at The University of Toledo. To generate a planning guide:

- Select Planning Guides and then select Request Planning Guide.
- Select your school of interest, The University of Toledo.
- Select Engineering and then Civil Engineering-B.S.
- Click on Select Cross Reference Institution and select the school that you are presently attending.
- Complete the information requested and then select View Planning Guide.

The Planning Guide will list all the courses that can be taken at your school that will count for the degree indicated.

You can also visit the following website for information on transfer course equivalency <http://registrar.utoledo.edu/tca/>. The current University of Toledo catalogue can be viewed at <http://catalog.utoledo.edu/>.

WHEN IS IT BEST TO START IN THE BSCE PROGRAM AT THE UNIVERSITY OF TOLEDO?

The short answer is to transfer to UTOL before the spring semester of your sophomore year, but this depends on the courses that you have completed that will count for a BSCE degree at The University of Toledo. The table below shows the first two years of a hypothetical schedule for students at CCC. Your actual schedule will depend on course availability and your academic background. The UTOL course CIVE2000 Professional Development is offered in spring semester and is required before your first co-op. Thus, you will need to spend at least one semester at UTOL before you can co-op, and more than one semester if you do not start at UTOL in spring semester. A good estimate for your graduation with a BSCE is two complete years after you complete your first co-op at The University of Toledo.

| Freshman/Fall | Hrs. | Freshman/Spring | Hrs. | Freshman/Summer | Hrs. |
|-----------------------------------|-------------|------------------------|-------------|---|-------------|
| English Composition | 3 | Technical Writing | 3 | Best advice is to make up deficits in English, Math, Chemistry or Physics | |
| Chemistry I | 4 | Calculus II | 5 | | |
| Calculus I | 5 | Hum/SocSci/Multcult | 3 | | |
| Construction & Surveying Draft | 3 | Hum/SocSci/Multcult | 3 | | |
| Total | 15 | Total | 14 | | |

| Sophomore/Fall | Hrs. | Sophomore /Spring | Sophomore /Summer |
|--------------------------|-------------|---|--|
| Physics I | 5 | Differential Equations | 3 |
| Calculus III | 4 | Physics II | 5 |
| Land and Route Surveying | 3 | Science Elective | 3 |
| Hum/SocSci/Multcult | 3 | Transfer to UTOL or make up deficits in English, Math, Chemistry or Physics | Transfer to UTOL or make up deficits in English, Math, Chemistry or Physics and/or take science elective or Hum/SocSci/Multcult electives |
| Total | 15 | | |

LONG RANGE PLANS AT THE UNIVERSITY OF TOLEDO

Engineering students are assigned to one of two long range plans in the first year of their attendance at UTOL. The long range plans are designated 'Long Range Plan A' and 'Long Range Plan B'. Transfer students are evaluated for the courses that they have completed before and after transferring to UTOL and assigned to the long range plan that best suits their situation so that they can graduate as soon as possible. Flow charts are available for the long range plans. They are designated 'Co-op Plan A Flow Chart' and 'Co-op Plan B Flow Chart'. The flow charts can be seen at <http://www.eng.utoledo.edu/civil/flowchart.html>. The long range plans at UTOL are shown in the tables below.

University of Toledo Department of Civil Engineering Long Range Plan A

| | | | | | |
|----------------------------------|-------------|---|-------------|--------------------------------------|-------------|
| Freshman/Fall | Hrs. | Freshman/Spring | Hrs. | Freshman/Summer | Hrs. |
| ENGL 1110 College Comp. I | 3 | ENGL 2950/2960 Rept. Writing | 3 | | |
| CHEM 1230 Gen. Chem. I | 4 | PHYS 2130 Gen. Phys. I for Eng. | 5 | | |
| MATH 1850 Single Var Calculus I | 4 | MATH 1860 Single Var Calculus II | 4 | | |
| CIVE 1000 Fresh. Civ.Eng. Exper. | 1 | CIVE 2000 Prof. Dev. | 1 | | |
| CIVE 1100 Meas. For Civ. Eng. | 3 | Hum/SocSci/Multcult | 3 | | |
| CIVE 1110 CAD for Civ.Eng. | 1 | | | | |
| Total | 16 | Total | 16 | | |
| Sophomore/Fall | Hrs. | Sophomore /Spring | Hrs. | Sophomore /Summer | Hrs. |
| CIVE 1150 Eng. Mech.: Statics | 3 | Co-op 1 | | CIVE 1160 Eng. Mech.: Str. of Matls. | 3 |
| PHYS 2140 Gen. Phys. II for Eng. | 5 | | | MIME 2300 Eng. Dynamics | 3 |
| MATH 2850 Calculus III | 3 | | | CIVE 1170 Fluid Mech. For CIVE | 3 |
| MATH 2890 Num. Meth. & Lin Alg. | 4 | | | MATH 3860 Diff. Eqns. | 3 |
| Science Elective | 3 | | | Hum/SocSci/Multcult | 3 |
| Total | 18 | | | Total | 15 |
| Pre-junior/Fall | Hrs. | Pre-junior/Spring | Hrs. | Pre-junior/Summer | Hrs. |
| Co-op 2 | | CIVE 3310 Stuct. Analysis | 3 | Co-op 3 | |
| | | CIVE 3620 Air Poll. Eng I | 3 | | |
| | | CIVE 3630 Wastewater Eng. | 3 | | |
| | | CIVE 3120 Civil Eng. Syst. Anal. | 3 | | |
| | | CIVE 2110 Civil Eng. Matls. w / Lab. | 3 | | |
| | | Fund of Eng. Elect. | 3 | | |
| | | Total | 18 | | |
| Junior/Fall | Hrs. | Junior /Spring | Hrs. | Junior /Summer | Hrs. |
| CIVE 3420 Rein. Conc. Des. I | 3 | Co-op 4 | | CIVE 3410 Steel Design I | 3 |
| CIVE 3210 Soil Mechanics | 3 | | | CIVE 3220 Found. Eng. | 3 |
| CIVE 3610 Water Supply & Treat. | 3 | | | MIME 4000 Eng. Statistics | 3 |
| CIVE 3510 Transp. Eng. I | 3 | | | CIVE 3520 Transp. Eng. II | 3 |
| MIME 2600 Eng. Economics | 3 | | | Hum/SocSci/Multcult | 3 |
| Total | 15 | | | Total | 15 |
| Senior/Fall | Hrs. | Senior/Spring | Hrs. | Senior /Summer | Hrs. |
| Technical Elective | 3 | If necessary, this semester may be used to make up remaining course deficits, to take Business Minor courses or to begin graduate study. | | | |
| Technical Elective | 3 | | | | |
| CIVE 4750 Senior Des. Project | 3 | | | | |
| Hum/SocSci/Multcult | 3 | | | | |
| Hum/SocSci/Multcult | 3 | | | | |
| Total | 15 | | | | |

University of Toledo Department of Civil Engineering Long Range Plan B

| Freshman/Fall | Hrs. | Freshman/Spring | Hrs. | Freshman/Summer | Hrs. |
|--------------------------------------|-----------|---|-----------|---------------------------|-----------|
| ENGL 1110 College Comp. I | 3 | ENGL 2950/2960 Rept. Writing | 3 | | |
| CHEM 1230 Gen. Chem. I | 4 | PHYS 2130 Gen. Phys. I for Eng. | 5 | | |
| MATH 1850 Single Var Calculus I | 4 | MATH 1860 Single Var Calculus II | 4 | | |
| CIVE 1000 Fresh. Civ.Eng. Exper. | 1 | CIVE 2000 Prof. Dev. | 1 | | |
| Hum/SocSci/Multcult | 3 | CIVE 1100 Meas. For Civ. Eng. | 3 | | |
| | | CIVE 1110 CAD for Civ.Eng. | 1 | | |
| Total | 15 | Total | 17 | | |
| Sophomore/Fall | Hrs. | Sophomore /Spring | Hrs. | Sophomore /Summer | Hrs. |
| CIVE 1150 Eng. Mech.: Statics | 3 | CIVE 1160 Eng. Mech.: Str. of Matls. | 3 | Co-op 1 | |
| PHYS 2140 Gen. Phys. II for Eng. | 5 | MIME 2300 Eng. Dynamics | 3 | | |
| MATH 2850 Calculus III | 3 | CIVE 1170 Fluid Mech. For CIVE | 3 | | |
| MATH 2890 Num. Meth. Lin Alg. | 4 | MATH 3860 Diff. Eqns. | 3 | | |
| Science Elective | 3 | Fund of Eng. Elect. | 3 | | |
| Total | 18 | Total | 15 | | |
| Pre-junior/Fall | Hrs. | Pre-junior/Spring | Hrs. | Pre-junior/Summer | Hrs. |
| CIVE 3310 Stuct. Analysis | 3 | Co-op 2 | | CIVE 3410 Steel Design I | 3 |
| CIVE 3210 Soil Mechanics | 3 | | | CIVE 3220 Found. Eng. | 3 |
| CIVE 3610 Water Supply & Treat. | 3 | | | MIME 4000 Eng. Statistics | 3 |
| CIVE 2110 Civil Eng. Matls. w / Lab. | 3 | | | CIVE 3520 Transp. Eng. II | 3 |
| CIVE 3510 Transp. Eng. I | 3 | | | Hum/SocSci/Multcult | 3 |
| Hum/SocSci/Multcult | 3 | | | Total | 15 |
| Total | 18 | | | | |
| Junior/Fall | Hrs. | Junior /Spring | Hrs. | Junior /Summer | Hrs. |
| Co-op 3 | | CIVE 3420 Rein. Conc. Des. I | 3 | Co-op 4 | |
| | | CIVE 3120 Civil Eng. Syst. Anal. | 3 | | |
| | | CIVE 3630 Wastewater Eng. | 3 | | |
| | | CIVE 3620 Air Poll. Eng I | 3 | | |
| | | Technical Elective | 3 | | |
| | | Total | 15 | | |
| Senior/Fall | Hrs. | Senior/Spring | Hrs. | Senior /Summer | Hrs. |
| Technical Elective | 3 | If necessary, this semester may be used to make up remaining course deficits, to take Business Minor courses or to begin graduate study. | | | |
| CIVE 4750 Senior Des. Project | 3 | | | | |
| MIME 2600 Eng. Economics | 3 | | | | |
| Hum/SocSci/Multcult | 3 | | | | |
| Hum/SocSci/Multcult | 3 | | | | |
| Total | 15 | Total | 0 | | |