

Associate of Arts / Science <Civil Engineering> – Field of Study

A *Field of Study* (FOS) is a selection of lower-division courses that are guaranteed by state law to transfer and apply to a Bachelor's degree program at a Texas public university. Upon completion of the Texas common core curriculum (TCCC), additional degree requirements (ADR) if any, and the FOS courses, you will have met the requirements to graduate with an Associate of Science and will have completed all the lower-division courses for the Bachelor's degree program. This is true even if the institution you transfer to requires a different selection of lower-division courses for their own freshmen or sophomores, and even if the institution has prerequisites for their upper-division courses that are not included in the FOS.

TCCC	FOS	ADR	1 st Semester	SCH	Advising Notes	
✓			ENGL 1301 – Composition I	3	A student pursuing an AS degree with a Field of Study Emphasis toward Civil Engineering should consult with an advisor regarding exact requirements for Mathematics courses at the transfer institution. (*See notes regarding MATH courses.)	
✓	✓		*MATH 2413- Calculus I	4		
✓			*XXXX X3XX- Creative Arts Elective	3		
		✓	ENGR 1201-Introduction to Engineering	2		
✓	✓		PHYS 2325-University Physics I	3		
	✓		PHYS 2125-University Physics I Lab	1		
			Total SCH	16'		
TCCC	FOS	ADR	2 nd Semester	SCH	Advising Notes	
✓			ENGL 1302 – Composition II	3	A student pursuing an AS degree with a Field of Study Emphasis in Civil Engineering should consult with an advisor regarding specific requirements that satisfy any Core Component Area Options at the transfer institution. (*See notes regarding Core Component Option Area courses.)	
	✓		MATH 2414-Calculus II	4		
	✓		ENGR 1304-Engineering Graphics	3		
	✓		ENGR 2301-Engineering Mechanics-Statics	3		
✓	✓		PHYS 2326-University Physics II	3		
	✓		PHYS 2126- University Physics II lab	1		
			Total SCH	17		
TCCC	FOS	ADR	Summer I	SCH		
✓			XXXX X3XX- Component Area Option CORE	3	A student pursuing an AS degree with a Field of Study Emphasis in Civil Engineering should consult with an advisor regarding specific requirements that satisfy any Core Component Area Options at the transfer institution. (*See notes regarding Core Component Option Area courses.)	
✓			HIST 1301- Untied States History I CORE	3		
			Total SCH	6		
TCCC	FOS	ADR	Summer II	SCH		
✓			XXXX X3XX- Component Area Option CORE	3		A student pursuing an AS degree with a Field of Study Emphasis in Civil Engineering should consult with an advisor regarding specific requirements that satisfy any Core Component Area Options at the transfer institution. (*See notes regarding Core Component Option Area courses.)
			Total SCH	3		
TCCC	FOS	ADR	3 rd Semester	SCH		
✓			GOVT 2305 – Federal Government	3	A student pursuing an AS degree with a Field of Study Emphasis in Civil Engineering should consult with an advisor regarding specific requirements that satisfy any Core Component Area Options at the transfer institution. (*See notes regarding Core Component Option Area courses.)	
	✓		MATH 2415-Calculus III	4		
✓			ENGL X3XX Language, Philosophy, and Culture CORE	3		
	✓		ENGR 2302-Engineering Mechanics--Dynamics	3		
	✓		CHEM 1309-General Chemistry for Engineering Majors	3		
	✓		CHEM 1109-General Chemistry for Engineering Majors Lab	1		
			Total SCH	17		
TCCC	FOS	ADR	4 th Semester	SCH	Advising Notes	
✓			HIST 1302-United States History II	3	A student pursuing an AS degree with a Field of Study Emphasis in Civil Engineering should consult with an advisor regarding specific requirements that satisfy any Core Component Area Options at the transfer institution. (*See notes regarding Core Component Option Area courses.)	
✓			GOVT 2306- Texas Government CORE	3		
	✓		MATH 2320-Differential Equations	3		
	✓		ENGR 2332-Mechanics of Materials	3		

✓			XXXX X3XX- Social/Behavioral Science CORE	3	
			Total SCH	15	
43 sch	39 Sch	2 Sch	Total Degree Hours	74	

To complete this degree in 2 years it is recommended that you register for the total number of hours listed for each semester. If you cannot take the recommended number of sch, consult with your advisor for maymester, summer and wintermester options.

Mathematics course options: MATH 1314, MATH 1316, MATH 1324, MATH 1332, MATH 1342, MATH 2412, MATH 2413

Creative Arts course options: ARTS 1301, ARTS 1303, ARTS 1304, DANC 2303, DRAM 1310, MUSI 1306, MUSI 1308, MUSI 1309, MUSI 1310

Life and Physical Science course options: BIOL 1306, BIOL 1307, BIOL 1308, BIOL 1309, BIOL 1311, BIOL 1313, BIOL 2301, BIOL 2306, CHEM 1305, CHEM 1311, CHEM 1312, ENGR 1201, GEOL 1301, GWOL 1303, GEOL 1305, PHYS 1301, PHYS 1302, PHYS 1315, PHYS 1410, PHYS 1417, PHYS 2325, PHYS 2326

Language Philosophy and Culture course options: ENGL 2322, ENGL 2323, ENGL 2326, ENGL 2327, ENGL 2328, ENGL 2332, ENGL 2333, ENGL 2351

Social Behavioral Science course options: ECON 2301, ECON 2302, PSYC 2301, PSYC 2306, PSYC 2308, PSYC 2314, PSYC 2317, SOCI 1301, SOCI 1306, SOCW 2361, SCOW 2362

Component Area Option course options: BCIS 1305, COSC 1301, COSC 1436, KINE 1304, SPCH 1311, SPCH 1315

Civil Engineering Jobs: Taken from: <https://www.indeed.com/career-advice/finding-a-job/civil-engineering-degree-jobs>

1. Surveyor

National average salary: \$16.74 per hour

Primary duties: Surveyors measure and note property boundaries and locations to determine building site specifications. The surveyor researches records or land titles to verify the accuracy of the data and present their findings to designated authorities. Surveyors prepare maps or plots to establish water or land boundaries in regards to deeds, leases and other legal documents.

2. CAD technician

National average salary: \$20.06 per hour

Primary duties: These professionals use computer-aided design software to plan projects. Technicians may review drawings or design work and perform the required research to meet building code specifications. Technicians may work with 2-D (surface modeling) or 3-D plans (solid modeling) technology. CAD technicians may have experience or education in drafting and architecture.

3. Building engineer

National average salary: \$26.93 per hour

Primary duties: These professionals provide maintenance and repair services for apartment buildings, workplaces or health care facilities. Building engineers may also oversee privately owned hotels or manufacturing facilities. These engineers have extensive knowledge of heating and cooling equipment to perform checks and repairs. Building engineers must comply with local fire and building codes to ensure structures meet federal health and disability codes.

4. Water hygiene engineer

National average salary: \$58,435 per year

Primary duties: Water hygiene engineers may work in water or wastewater treatment plants to oversee system operations and proper treatment protocols. Engineers perform equipment inspections and monitor the proper operation of meters and gauges. Water hygiene engineers evaluate information to identify the appropriate actions to take, file reports of their findings and make recommendations.

5. Urban planner

National average salary: \$62,638 per year

Primary duties: Urban planners work with public officials, developers and the community to plan the development and use of land. Planners gather data and analyze market research and economics to make determinations for site plans or projects. Urban planners are current on zoning and building codes and identify if changes need to be made to comply with regulations. Planners may present projects or proposals to communities, planning officials or committees.

6. Fire engineer

National average salary: \$66,944 per year

Primary duties: The fire engineer is responsible for implementing fire safety and protection practices. Engineers meet with authorities and clients to meet fire safety guidelines and to monitor code requirements and data research for the proper installation and location of fire suppression and safety systems. Engineers may perform inspections of equipment for fault or damage.

7. Transport planner

National average salary: \$68,200 per year

Primary duties: Transport planners may work in the public or private sector to develop transportation strategies to address the needs of transport users, including cyclists and pedestrians. Planners must consider environmental, efficiency and safety issues in their development strategies. Transport planners analyze and interpret data and prepare reports related to traffic flows or congestion.

8. Field service engineer

National average salary: \$69,847 per year

Primary duties: Sometimes called engineering technicians, field service engineers are primarily responsible for the maintenance of equipment, scheduling of repairs, and the installation of electrical and engineering products. Field service engineers work directly with clients who may rent, lease or own engineering products or equipment. These engineers rely on logic and knowledge to identify and solve problems.

9. Construction manager

National average salary: \$77,129 per year

Primary duties: Construction managers prepare cost estimates, devise budgets and create work timetables. Managers are often on the job site working with subcontractors, architects and fellow engineers for collaboration on projects. Construction managers comply with state and federal legal requirements and building and safety codes. Managers may oversee several project types, such as road and bridge construction, and public, residential, commercial and industrial structures.

10. Environmental engineer

National average salary: \$79,060 per year

Primary duties: Environmental engineers use key areas like engineering, soil science and biology to develop environmental solutions. Engineers prepare and review investigative reports and design projects to solve problems or implement programs like recycling, waste disposal, and water and air pollution control. Engineers analyze scientific data to make recommendations or provide information for legal actions.

11. Construction estimator

National average salary: \$79,579 per year

Primary duties: Construction estimators must identify factors that affect the cost of a project, such as production time, materials and labor. Estimators read blueprints and collaborate with architects and clients to arrive at accurate cost

estimates. Construction estimators oversee the project to adjust estimates and totals while recommending ways to reduce costs. They maintain accurate records of estimated and actual project costs.

12. Design engineer

National average salary: \$80,069 per year

Primary duties: Design engineers collaborate with research and development teams to create design parameters and meet requirements. These engineers typically use CAD (computer-aided design) or CAE (computer-aided engineering) software to create models and plans. Design engineers may alter existing plans or formulate prototypes to ensure projects meet the required specifications and guidelines.