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Associate in Applied Science - Transfer (AAS-T)**Accounting Technician****for LCC BAS-OLTM**

Accounting is a critical business function offering many career opportunities. Students will learn basic skills for entry-level accounting positions such as accounting technician, accounts payable and accounts receivable in private industry, state and local government, and public accounting.

The Accounting Technician program offers an introduction into taxation, computerized accounting as well as financial and managerial accounting and meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science (BAS) degree. The BAS in Organizational Leadership and Technical Management (BAS-OLTM), along with the foundation of the Accounting Technician (AAS-T) degree, prepares accounting practitioners for positions in leadership, technical management and supervision.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Accounting Technician - AAS-T (BAS-OLTM Option) (lowercolumbia.edu/program-maps/business/AAS-Accounting-Technician-to-BAS-OLTM)**

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher except MATH& 131
- **Human Relations / Diversity:**
5 credits – BUS 144 Management of Human Relations: DIV
- **Natural Sciences:**
5 credits – Natural Science with lab course from the Distribution List
- **Social Sciences:**
5 credits – BUS& 101 Intro to Business OR ECON& 201 Micro Economics

Program Requirements

ACCT 101	Intro to Accounting Concepts	5
ACCT 150	Payroll Accounting and Business Tax Reporting	5
ACCT& 201	Principles of Accounting I	5
ACCT& 202	Principles of Accounting II	5
ACCT& 203	Principles of Accounting III	5

ACCT 241	Intro to Quickbooks	5
ACCT 244	Individual Income Taxation	5
ACCT 275	Accounting Tech Capstone	5
ACCT 288	Cooperative Work Experience	4
BTEC 130	Electronic Calculators I	1
BTEC 131	Intro to Spreadsheets	5
BTEC 135	Advanced Data Analysis	5
BUS 100	Foundations of Business Success	3
BUS 104	Business Math Applications	5
BUS 150	Customer Service/Management	5
BUS& 201	Business Law	5
COLL 289	Employment Portfolio Seminar	1

Students must pass each course listed in Program Requirements with a 'C' or above.

One of the following 5 credit courses may be substituted for ACCT 288/COLL 289 with program advisor permission:

ECON& 202	Macro Economics	5
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Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 99 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Demonstrate competency in performing all steps in the accounting cycle, individual taxation, managerial accounting, and payroll processing. (GS)
- Apply foundational accounting concepts. (GS)
- Display effective problem solving and decision-making skills within the different accounting fields. (GS)
- Demonstrate proficiency in the utilization of common accounting software tools, including, but not limited to, the following: QuickBooks, Microsoft-Access, and Microsoft-Excel.

- Recognize the commitment to lifelong learning required of those in the accounting profession.
- Apply the use of customer service skills in business environments. (GS)
- Demonstrate familiarity with Contract Law and the Uniform Commercial Code. (GS)
- Communicate business, financial and accounting information to appropriate constituents. (GS)

Revised May 2023 (effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science (AAS)

Accounting Technician

Provides skills for entry-level accounting positions such as accounting technician, accounts payable, accounts receivable in private industry, state, and local government.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Accounting Technician - AAS (lowercolumbia.edu/program-maps/business/AAS-Accounting-Technician)**

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I OR BUS 119 Business Communications
- **Quantitative Skills:**
5 credits – BUS 104 Business Math
- **Social Sciences/Diversity:**
5 credits – BUS 144 Management of Human Relations: DIV.
- **Humanities or Natural Sciences:**
5 credits – from the Distribution List

Program Requirements

ACCT 101	Intro to Accounting Concepts	5
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ACCT 150	Payroll Accounting/Bus Tax Reporting	5
ACCT& 201	Principles of Accounting I	5
ACCT& 202	Principles of Accounting II	5
ACCT& 203	Principles of Accounting III	5
ACCT 241	Intro to QuickBooks	5
ACCT 244	Individual Income Taxation	5
ACCT 275	Accounting Tech Capstone	5
ACCT 288	Cooperative Work Experience	4
BUS& 101 OR ECON& 201 OR ECON 105	Intro to Business OR Micro Economics OR Intro to Economics	5
BUS 100	Foundations of Business Success	3
BUS 150	Customer Service/Management	5
BUS& 201	Business Law	5
BTEC 130	Electronic Calculators I	1
BTEC 131	Intro to Spreadsheets	5
BTEC 135	Advanced Data Analysis	5
COLL 289	Employment Portfolio Seminar	1

One of the following 5 credit courses may be substituted for ACCT 288/COLL 289 with program advisor, permission:

CMST& 220	Public Speaking	5
CMST& 230	Small Group Communication	5
ECON& 202	Macro Economics	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 94 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Demonstrate competency in performing all steps in the accounting cycle, individual taxation, managerial accounting, and payroll processing. (GS)
- Apply foundational accounting concepts. (GS)
- Display effective problem solving and decision-making skills within the different accounting fields. (GS)
- Demonstrate proficiency in the utilization of common accounting software tools, including, but not limited to, the following: QuickBooks, Microsoft-Access, and Microsoft-Excel.
- Recognize the commitment to lifelong learning required of those in the accounting profession.
- Apply the use of customer service skills in business environments. (GS)
- Demonstrate familiarity with Contract Law and the Uniform Commercial Code. (GS)
- Communicate business, financial and accounting information to appropriate constituents. (GS)

Revised December 2020 (effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science - Transfer (AAS-T)

Administrative Services Manager for LCC BAS-OLTM

Administrative professionals must possess knowledge of business principles, day-to-day operations, leadership, and interpersonal skills. Administrative professionals are responsible for managing communication and information using appropriate business technology tools. They are often tasked with customer service, project management, analysis and reporting of business data, budgeting, and technical expertise with Internet commerce and social media tools as a means for marketing. Administrative professionals must also be able to collaborate and effectively work in a team environment. This program meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science degree in Organizational Leadership and Technical Management which prepares administrative professionals for positions in leadership, technical management and supervision.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Administrative Services Manager - AAS-T (BAS-OLTM Option) (lowercolumbia.edu/program-maps/business/AAST-Administrative-Services-Manager-to-BAS-OLTM)**

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher with the exception of MATH& 131
- **Human Relations / Diversity:**
5 credits – BUS 144 Management of Human Relations: DIV
- **Natural Sciences:**
5 credits – Natural Science with a lab from the Distribution List
- **Social Science:**
5 credits - BUS& 101 Intro to Business

Program Requirements

ACCT 101 <i>OR</i> ACCT 135	Intro to Accounting Concepts <i>OR</i> Accounting for Non-Accountants	5
BUS 100	Foundations of Business Success	3
BUS 150	Customer Service/ Management	5
BUS 264	Principles of Marketing	5
BUS 270	Intro to Project Management	5
BTEC 104	Intro to Business Technology	5
BTEC 111	Word Processing I	5
BTEC 112	Word Processing II	5
BTEC 131	Introduction to Spreadsheets	5
BTEC 135	Advanced Data Analysis	5
BTEC 148	Intro to Outlook	2

BUS 294	Career Success	2
ENGL& 235	Technical Writing	5
IT 111	Intro to Windows	4
IT 230	Database Development	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 91 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business- or business-related work environment (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking)
- Apply mathematical information to perform tasks in business and information technology work environments (GS Numeracy/Quantitative Literacy)
- Interact effectively with individuals and groups (GS Interpersonal Relations)
- Demonstrate proficiency and effectiveness in the use of business technology tools
- Communicate professionally in writing, speaking, and electronic formats as appropriate to a business- or business-related work environment (GS)
- Apply mathematical information to perform tasks in business and information technology for analyzing and presenting data (GS)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS)
- Demonstrate proficiency in project management
- Demonstrate ethical decision-making
- Demonstrate competency in business principles such as marketing, interpersonal skills, and presentation

Revised May 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science (AAS)**Administrative Services Manager**

Administrative professionals must possess knowledge of business principles, day-to-day operations, leadership, and interpersonal skills. Administrative professionals are responsible for managing communication and information using appropriate business technology tools. They are often tasked with customer service, project management, analysis and reporting of business data, budgeting, and technical expertise with Internet commerce and social media tools as a means for marketing. Administrative professionals must also be able to collaborate and effectively work in a team environment.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Administrative Services Manager - AAS (lowercolumbia.edu/program-maps/business/AAS-Administrative-Services-Manager)**

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative Skills:**
5 credits – BUS 104 Business Math Applications.
- **Humanities:**
5 credits – BUS 144 Management of Human Relations:DIV recommended.
- **Natural Sciences:**
5 credits – choose from the Distribution List. CMST& 220 Public Speaking OR CMST& 230 Small Group Communication recommended.
- **Electives:**
1-5 credits from ACCT, BTEC, BUS, CS, IT or choose from the Distribution List.

Program Requirements

ACCT 101 OR ACCT 135	Intro to Accounting Concepts OR Accounting for Non-Accountants	5
BUS 100	Foundations of Business Success	3
BUS& 101	Intro to Business	5
BUS 150	Customer Service/Management	5
BUS 264	Principles of Marketing	5

BUS 270	Intro to Project Management	5
BTEC 104	Intro to Business Technology	5
BTEC 111	Word Processing I	5
BTEC 112	Word Processing II	5
BTEC 131	Introduction to Spreadsheets	5
BTEC 135	Advanced Data Analysis	5
BTEC 148	Intro to Outlook	2
BUS 294	Career Success	2
ENGL& 235	Technical Writing	5
IT 111	Intro to Windows	4
IT 230	Database Development	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 92-96 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business- or business-related work environment (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking)
- Apply mathematical information to perform tasks in business and information technology work environments (GS Numeracy/Quantitative Literacy)
- Interact effectively with individuals and groups (GS Interpersonal Relations)
- Demonstrate proficiency and effectiveness in the use of business technology tools
- Communicate professionally in writing, speaking, and electronic formats as appropriate to a business- or business-related work environment (GS)
- Apply mathematical information to perform tasks in business and information technology for analyzing and presenting data (GS)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS)
- Demonstrate proficiency in project management

- Demonstrate ethical decision-making
- Demonstrate competency in business principles such as marketing, interpersonal skills, and presentation

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Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Certificate of Proficiency (COP)

Administrative Support

Administrative support professionals are responsible for performing and coordinating a wide range of activities, managing information flow, providing excellent customer service, and operating and maintaining a wide variety of office equipment. Organizations in a wide variety of industries, including the health care field and medical offices, rely on skilled administrative support staff to keep operations running efficiently and effectively.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Administrative Support - COP (lowercolumbia.edu/program-maps/business/COP-Administrative-Support)**

Certificate Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I OR BUS 119 Business Communications.
- **Quantitative Skills:**
5 credits – BUS 104 Business Math Applications OR MATH 88/98 Pre-College Math II/ III OR 5 credits of a higher level math course.
- **Human Relations/Social Science:**
5 credits – BUS 144 Management of Human Relations: DIV recommended.

Program Requirements

BUS 100	Foundations of Business Success	3
BUS 294	Career Success	2
BTEC 104	Into to Business Technology	5
BTEC 111	Word Processing I	5

BTEC 112	Word Processing II	5
BTEC 131	Intro to Spreadsheets	5
BTEC 148	Intro to Outlook	2
BTEC 230	Electronic Calculators II	2
IT 111	Intro to Windows	4
Electives	ACCT, BTEC, BUS, BTEC, CS, IT or distribution list	1-5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 49-53

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business-or business-related work environment (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking)
- Apply mathematical information to perform tasks in business and information technology to work environments (GS Numeracy/Quant. Literacy)
- Interact effectively with individuals and groups (GS Interpersonal Relations)
- Demonstrate proficiency in the use of business equipment, computer software, and technology
- Create and manage business documents, spreadsheets, and databases
- Demonstrate competency in records management
- Demonstrate proficiency in organizational skills and assigning priority
- Demonstrate ethical decision-making

Revised December 2021 (Effective Summer 2022)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science - Transfer (AAS-T)

Advanced Manufacturing**for LCC BAS-OLTM**

Manufacturing industries are in need of skilled production operators and technicians with up-to-date, 21st century skills. Industries that make products from metal, plastics, wood and other materials, as well as those producing solar panels, biofuels, energy, petrochemicals, pharmaceuticals, food, semiconductors, and a host of other traditional and “green” products need employees capable of running and servicing sophisticated machinery. In addition, workers in these industries must understand and practice principles aimed at maintaining safety, improving quality, eliminating waste, and reducing or eliminating the impact of operations on the environment. This program also meets the degree in Organizational Leadership and Technical Management which prepares industry professionals for positions in leadership, management and supervision.

Degree Requirements• **Communications:**

5 credits – ENGL& 101 English Composition I

• **Quantitative Skills:**

5 credits – MATH& 107 Math in Society or higher except for MATH& 131

• **Natural Sciences:**

5 credits – Natural Science with lab from the Distribution List

• **Diversity / Human Relations:**

5 credits – BUS 144 Management of Human Relations: DIV

Core Program Requirements

COLL 289	Employment Portfolio Seminar	1
CS 110	Introduction to Microcomputer Applications	3
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3

In addition to the core program requirements, students must select two options from the following areas of study:

Production Technician (39 credits)

MFG 120	Quality Assurance	4
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MFG 140	Applied Hydraulics	4
PMFG 110	Industrial and Predictive Maintenance Fundamentals	5
PMFG 150	Electrical and Electronic Fundamentals	6
PMFG 151	Process Control Equipment	5
PMFG 154	Fundamentals of Instrumentation and PLCs	5
PMFG 201	Electrical Control Equipment	3
PMFG 202	Electric Motors	2
PMFG 210	Advanced Industrial Maintenance	5

Multicraft Trades (33 credits)

BLPT 150 <i>OR</i> BLPT 160	Machinists Blueprint Reading <i>OR</i> Blueprint Reading for Welders	5
MASP 107 <i>AND/OR</i> MASP 111	Machining for Related Occupations (2-6 <i>variable</i>) Machine Shop I (2-10 <i>variable for a combined total</i> <i>of 10 credits</i>)	10
MFG 115	Manufacturing Processes	5
MFG 288	Cooperative Work Experience	2*
TECH 100	Advanced Principles of Technology	5
WELD 105	Related Welding	6

Engineering Technician (30 credits)

BLPT 150 <i>OR</i> BLPT 160	Machinists Blueprint Reading <i>OR</i> Blueprint Reading for Welders	5
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BTEC 131	Introduction to Spreadsheets	5
ENGR& 121	Engineering Graphics I	3
ENGR& 122	Engineering Graphics II	3
ENGR& 123	Engineering Graphics III	3
MFG 130	Materials Science	5
MFG 230	Computer Integrated Manufacturing	4
MFG 288	Cooperative Work Experience	2*

*MFG 299 Independent Study may be substituted for MFG 288 with faculty program advisor permission.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: minimum of 91-100 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS Communication).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking).
- Apply mathematical information to perform tasks in industrial technology (GS Numeracy/Quantitative Literacy).
- Interact effectively with individuals and groups (GS Interpersonal Relations).
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply industry standard safety and hazardous material handling guidelines.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Describe a variety of manufacturing techniques and components common to manufacturing systems.
- Perform basic machining and welding techniques.
- Interpret blueprints, diagrams and schematics associated with various manufacturing processes.
- Describe basic concepts related to mechanical, hydraulic/pneumatic, instrumentation and electrical systems
- Describe basic process control strategies.

- Perform entry-level maintenance tasks common in manufacturing operations.
- Demonstrate competency in documenting and communicating work performed using trade specific language.
- Apply knowledge of the properties of industrial influence and the selection of primary materials and conversion into useful products.
- Describe various approaches used to ensure quality in manufacturing operations.

Revised May 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science (AAS)

Advanced Manufacturing Technology

Manufacturing industries are in need of skilled production operators and technicians with up-to-date, 21st century skills. Industries that make products from metal, plastics, wood and other materials, as well as those producing solar panels, biofuels, energy, petrochemicals, pharmaceuticals, food, semiconductors, and a host of other traditional and "green" products need employees capable of running and servicing sophisticated machinery. In addition, workers in these industries must understand and practice principles aimed at maintaining safety, improving quality, eliminating waste, and reducing or eliminating the impact of operations on the environment.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Advanced Manufacturing Technology - AAS (Engineering Technician and Multicraft Trades Option) (lowercolumbia.edu/program-maps/trades/AAS-Advanced-Manufacturing-Technology-Engineering-Tech-Multicraft-Trades)**
- **Advanced Manufacturing Technology - AAS (Multicraft Trades and Production Technician Option) (lowercolumbia.edu/program-maps/trades/AAS-Advanced-Manufacturing-Technology-Multicraft-Trades-Production-Tech)**
- **Advanced Manufacturing Technology - AAS (Production Technician and Engineering Technician Option) (lowercolumbia.edu/program-maps/trades/AAS-Advanced-Manufacturing-Technology-Production-Tech-Engineering-Tech)**

Degree Requirements

- **Communications:**
5 credits – ENGL& 101 English Composition I OR ENGL 110 Industrial Communication (ENGL 110 recommended)

- **Quantitative Skills:**

5 credits – MATH 106 Industrial Mathematics

- **Natural Sciences:**

5 credits – DHET 240 Fluid Power/Electrical Theory and Design OR TECH 100 Advanced Principles of Technology OR MFG 130 Materials Science OR choose from the Distribution List

- **Diversity / Human Relations:**

5 credits – BUS 144 Management of Human Relations: DIV

Core Program Requirements

HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3
COLL 289	Employment Portfolio Seminar	1
CS 110	Introduction to Microcomputer Applications	3

In addition to the core program requirements, students must select two options from the following areas of study:

Production Technician (39 credits)

MFG 120	Quality Assurance	4
MFG 140	Applied Hydraulics	4
PMFG 110	Industrial and Predictive Maintenance Fundamentals	5
PMFG 150	Electrical and Electronic Fundamentals	6
PMFG 151	Process Control Equipment	5
PMFG 154	Fundamentals of Instrumentation and PLCs	5
PMFG 201	Electrical Control Equipment	3
PMFG 202	Electric Motors	2
PMFG 210	Advanced Industrial Maintenance	5

Multicraft Trades (33 credits)

BLPT 150 <i>OR</i> BLPT 160	Machinists Blueprint Reading <i>OR</i> Blueprint Reading for Welders	5
MASP 107 <i>AND/OR</i> MASP 111	Machining for Related Occupations <i>AND/OR</i> Machine Shop I (2-10 <i>variable for a combined total of 10 credits</i>)	10
MFG 115	Manufacturing Processes	5
MFG 288	Cooperative Work Experience	2*
TECH 100	Advanced Principles of Technology	5
WELD 105	Related Welding	6

Engineering Technician (30 credits)

BLPT 150 <i>OR</i> BLPT 160	Machinists Blueprint Reading <i>OR</i> Blueprint Reading for Welders	5
BTEC 131	Introduction to Spreadsheets	5
ENGR& 121	Engineering Graphics I	3
ENGR& 122	Engineering Graphics II	3
ENGR& 123	Engineering Graphics III	3
MFG 130	Materials Science	5
MFG 230	Computer Integrated Manufacturing	4
MFG 288	Cooperative Work Experience	2*

*MFG 299 Independent Study may be substituted for MFG 288 with faculty program advisor permission.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: minimum of 91-100 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS Communication).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking).
- Apply mathematical information to perform tasks in industrial technology (GS Numeracy/Quantitative Literacy).
- Interact effectively with individuals and groups (GS Interpersonal Relations).
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply industry standard safety and hazardous material handling guidelines.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Describe a variety of manufacturing techniques and components common to manufacturing systems.
- Perform basic machining and welding techniques.
- Interpret blueprints, diagrams and schematics associated with various manufacturing processes.
- Describe basic concepts related to mechanical, hydraulic/pneumatic, instrumentation and electrical systems
- Describe basic process control strategies.
- Perform entry-level maintenance tasks common in manufacturing operations.
- Demonstrate competency in documenting and communicating work performed using trade specific language.
- Apply knowledge of the properties of industrial influence and the selection of primary materials and conversion into useful products.
- Describe various approaches used to ensure quality in manufacturing operations.

Revised April 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Anthropology Focus

Anthropology is the study of human biological, cultural and social diversity. With an emphasis upon a comparative perspective, anthropology studies the human condition on a global scale and throughout the course of human history. Within the discipline of anthropology, the four fields of study are biological anthropology (human evolution), cultural anthropology, archaeology and anthropological linguistics. Prepare for advanced studies in anthropology at a baccalaureate institution and eventual employment in government agencies or academic profession. Employment most often requires completion of post-graduate degree.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Anthropology - AA-DTA (lowercolumbia.edu/program-maps/social-science/AAD-TA-Anthropology)**

Degree Requirements

- **Communications:**

15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.

- **Quantitative / Symbolic Reasoning Skills:**

5 credits - MATH& 107 or higher with the exception of MATH& 131.

- **Humanities:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed. HIST& 126 and PHIL& 101 and 5 additional credits from another Humanities discipline are recommended.

- **Natural Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement. ANTH& 205, BIOL& 100 and 5 additional credits from physical and/or earth science are recommended. BIOL& 100 meets the laboratory requirement.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline. ANTH& 206, HIST& 127, and SOC& 101 are recommended.

- **Diversity:**

5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by ‘DIV’ attached to the course title.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

ART 227	History of Western Art II:DIV	5
BIOL 150	Human Genetics & Society	5
ENVS& 100	Survey of Environmental Science	5
SOC 225	Race and Ethnicity:DIV	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- Communication: Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- Numeracy: Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- **Diversity:** Examine the causes and expressions of difference, power, and discrimination.
- **Humanities:** Explore how people process, document, and express their social and cultural experience.
- **Social Science:** Examine society, behavior, and relationships among individuals within a society.
- **Natural Science:** Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Gain a basic introduction to scientific reasoning as it applies to study of human evolution.
- Gain a basic understanding of human beings as an aspect of the natural world and their interaction with the physical environment.
- Gain a basic understanding of humans as a product of the contingencies of natural history with no more significance than any other species.
- Gain a basic understanding of the history of scholarship which serves as foundation of modern cosmology and anthropological thought.
- Achieve an appreciation of the diversity of cultures and the role it plays in determining human behavior.
- Gain a comprehension of the nature of human language.
- Gain a comprehension of the nature of human societies.
- Develop the ability to apply the notion of relativism to the understanding of religion, values, world views, ideology and the concept of human nature.
- Develop a conceptual understanding of the basic issues of multiculturalism.
- Develop an informed understanding of the basic issues of class, ethnicity, race, gender, and religion as cultural constructs.

Revised August 2022 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Art & Design Focus

At LCC, students may select beginning and advanced courses in a variety of artistic media, including design, drawing, ceramics, graphic design, painting and photography. A

solid base in studio art combined with art history provides the basic liberal arts foundation essential for those interested in entering an art profession or transferring to complete a bachelor's degree in art.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Art and Design (FINE ARTS) - AA-DTA** (lowercolumbia.edu/program-maps/arts/AADTA-Art-Design-Fine-Arts)
- **Art and Design (GRAPHIC DESIGN) - AA-DTA** (lowercolumbia.edu/program-maps/arts/AADTA-Art-Design-Graphic-Design)

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 Public Speaking OR CMST& 230 Small Group Communication.
- **Quantitative / Symbolic Reasoning Skills:**
5 credits – MATH& 107 or higher with the exception of MATH& 131.
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: ART& 100 – Art Appreciation:DIV.
- **Electives:**
25 credits - No more than 15 credits may be taken from the Restricted Course List on the Distribution List .

Recommended Electives

ART 101	Beginning Drawing	3
ART 106	Two-Dimensional Design	5

ART 111	Beginning Painting	3
ART 121	Intro to Digital Imaging and Illustration	5
ART 131	Intro to Graphic Design	5
ART 141	Beginning Ceramics	3
ART 151	Introduction to Digital Photography	5
ART 200	Arts Portfolio Website Design	3
ART 226	History of Western Art I	5
ART 227	History of Western Art II:DIV	5
ART 228	History Western Art III:DIV	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- Communication: Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- Numeracy: Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.

- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Graduates will apply artistic skills and knowledge along with historical and cultural competency to demonstrate effective communication of visual ideas in art and design.

Revised June 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Applied Science (AAS)

Automotive Technology

Modern automobiles are complex machines requiring service technicians who are highly skilled and knowledgeable about mechanical, electrical, and electronic systems. The Automotive Technology program provides a strong combination of classroom theory and hands-on practice, with courses based on competencies established by the ASE Education Foundation. The LCC Automotive Technology program is certified by ASE Education Foundation, a branch of the National Institute for Automotive Service Excellence (ASE).

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Automotive Technology - AAS (lowercolumbia.edu/program-maps/trades/AAS-Automotive-Technology)**

Degree Requirements

- **Communications:**
5 credits – ENGL 110 Industrial Communications recommended
- **Quantitative / Symbolic Reasoning Skills:**
5 credits – MATH 106 Industrial Mathematics recommended

- **Human Relations / Social Science / Diversity:**

5 credits – BUS 144 Management of Human Relations:DIV meets all three of these requirements and is recommended.

- **Natural Sciences:**

5 credits – DHET 240 Fluid Power/Electrical Theory & Design OR TECH 100 Advanced Principles of Technology OR MFG 130 Materials Science OR choose from the Distribution List.

Program Requirements

AMTC 100	Essentials of Mechanics	5
AMTC 104	Automotive Electrical Systems	15
AMTC 105	Vehicle Climate Control	5
AMTC 114	Automotive Chassis	15
AMTC 124	Automotive Engines	15
AMTC 206	Fuels and Emissions	15
AMTC 207	Computer Engine Controls	15
AMTC 214	Automotive Drivetrains	15
MFG 105	Industrial Safety	3
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
COLL 289	Employment Portfolio Seminar	1
AMTC 288	Cooperative Education	2
WELD 105	Related Welding	6

A combination of the following courses, up to 9 credits, may be substituted for COLL 289, AMTC 288, and WELD 105 with program advisor permission: AMTC 299, ACCT 101 (5 cr), ACCT 135 (5 cr), BUS& 101 (5 cr), CS 110 (3 cr) or other WELD courses.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 133 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).

- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups. (GS).
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Apply industry standard safety and hazardous material handling guidelines.
- Analyze and repair automotive systems including electrical, engines, heating, air conditioning, transmissions drivetrain, suspension, wheels, tires and brakes.
- Demonstrate competency in fluid services of automotive systems.
- Analyze automotive vehicles to diagnose cause of concern.
- Service and repair automotive engines including fuel, ignition, and computer systems.
- Locate information using a variety of automotive service information resources.

Revised December 2021 (effective Summer 2022)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science - Transfer (AAS-T)

Automotive Technology

for LCC BAS-OLTM

Modern automobiles are complex machines requiring service technicians who are highly skilled and knowledgeable about mechanical, electrical, and electronic systems. The Automotive Technology AAS-T program provides a strong combination of classroom theory and hands-on practice, with courses based on competencies established by the ASE Education Foundation (ASE). This program also meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science degree in Organizational Leadership and Technical Management which prepares industry professionals for positions in leadership, management and supervision.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Automotive Technology - AAS-T (BAS-OLTM Option) (lowercolumbia.edu/program-maps/trades/AAS-Automotive-Technology-to-BAS-OLTM)**

Degree Requirements

- **Communications:**
5 credits – ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher except for MATH& 131
- **Natural Sciences:**
5 credits – Natural Science with lab from the Distribution List
- **Diversity / Human Relations:**
5 credits – BUS 144 Management of Human Relations: DIV

Program Requirements

AMTC 100	Essentials of Mechanics	5
AMTC 104	Automotive Electrical Systems	15
AMTC 105	Vehicle Climate Control	5
AMTC 114	Automotive Chassis	15
AMTC 124	Automotive Engines	15
AMTC 206	Fuels and Emissions	15
AMTC 207	Computer Engine Controls	15
AMTC 214	Automotive Drivetrains	15
MFG 105	Industrial Safety	3
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
COLL 289	Employment Portfolio Seminar	1
AMTC 288	Cooperative Education	2

AMTC 299 (3 credits) may be substituted for COLL 289 and AMTC 288 with program advisor permission.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 127 with cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups. (GS).
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Apply industry standard safety and hazardous material handling guidelines.
- Analyze and repair automotive systems including electrical, engines, heating, air conditioning, transmissions drivetrain, suspension, wheels, tires and brakes.
- Demonstrate competency in fluid services of automotive systems.
- Analyze automotive vehicles to diagnose cause of concern.
- Service and repair automotive engines including fuel, ignition, and computer systems.
- Locate information using a variety of automotive service information resources.

Revised May 2023 (effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Certificate of Proficiency (COP)

Automotive Technology - Maintenance and Light Repair

Modern automobiles are complex machines requiring service technicians who are highly skilled and knowledgeable about mechanical, electrical, and electronic systems. The Automotive Technology program provides a strong combination of classroom theory and hands-on practice, with courses based on competencies established by the ASE Education Foundation. The LCC Automotive Technology program is certified by ASE Education Foundation, a branch of the National Institute for Automotive Service Excellence (ASE).

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Automotive Technology - COP (lowercolumbia.edu/program-maps/trades/COP-Automotive-Technology-Maintenance-Light-Repair)**

Certificate Requirements

- **Communications:**
5 credits - ENGL 110 Industrial Communication, ENGL& 101 or 102 English Comp I & II, BUS 119 Business Communications, CMST& 220 Public Speaking, CMST& 230 Small Group Communications
- **Quantitative Skills:**
5 credits - MATH 088/089 Pre-College Math II, MATH 106 Industrial Mathematics, or higher
- **Human Relations / Social Science:**
5 credits – BUS 144 Management of Human Relations.

Program Requirements

AMTC/DHET 100	Essentials of Mechanics	5
AMTC 104	Automotive Electrical Systems	15
AMTC 114	Automotive Chassis	15
AMTC 124	Automotive Engines	15
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 69

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Display work appropriate behavior including positive attitude, timeliness and teamwork.

- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Apply industry standard safety and hazardous material handling guidelines.
- Demonstrate competency in inspection and service of automotive systems including electrical, engines, heating, air conditioning, transmissions drivetrain, suspension, wheels, tires and brakes.
- Demonstrate competency in fluid services of automotive systems.

Revised March 2021 (Effective Fall 2021)

Notes:

Consult an advisor if you have any questions.

AS-T BIO/CHEM E/MRP

Bioengineering & Chemical Pre-Engineering

Complete basic background studies for transfer to a bachelor's degree program in engineering disciplines. Careers may be found in research, development, design, operations management, teaching, sales and consulting.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Bioengineering and Chemical Pre-Engineering AS-T (Chemical Option) (lowercolumbia.edu/program-maps/stem/AST-Bioengineering-and-Chemical-Pre-Engineering-Chemical-Option)**
- **Bioengineering and Chemical Pre-Engineering AS-T (Bioengineering Option) (lowercolumbia.edu/program-maps/stem/AST-Bioengineering-and-Chemical-Pre-Engineering-Bioengineering-Option)**

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative / Symbolic Reasoning Skills:**
20 credits – MATH& 151* Calculus I, MATH& 152* Calculus II, MATH& 153* Calculus III, AND MATH 240 Differential Equations.
- **Humanities/ Social Sciences:**
15 credits – minimum 5 credits in Humanities, minimum 5 credits in Social Science, plus an additional 5 credits in either Humanities or Social Science from the Distribution List. ECON& 201 or 202 recommended.

- **Diversity:**

5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by ‘DIV’ attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.

- **Electives:**

5 credits minimum – select electives with the help of an advisor based on the requirements of the specific discipline at the baccalaureate institution the student plans to attend.

Pre-Major Requirements (40 credits)

CHEM& 161*	General Chemistry w/Lab I	5
CHEM& 162*	General Chemistry w/Lab II	5
CHEM& 163*	General Chemistry w/Lab III	5
CHEM& 261*	Organic Chemistry w/Lab I	5
BIOL& 221*	Majors Ecology/Evolution: w/Lab OR	5
CHEM& 262*	Organic Chemistry w/Lab II	
PHYS& 221*	Engr Physics I w/Lab	5
PHYS& 222*	Engr Physics II w/Lab	5
PHYS& 223*	Engr Physics III w/Lab	5

Electives

BIOL& 221*	Majors Ecology/Evolution: w/Lab	5
BIOL& 222*	Majors Cell/Molecular: w/ Lab	5
CHEM& 262*	Organic Chemistry w/Lab II	5
CHEM& 263*	Organic Chemistry w/Lab III	5
CS 170	Computer Programming	5
ENGL& 235	Technical Writing	5
ENGR& 204	Electrical Circuits	6
ENGR& 224	Thermodynamics	5
MATH& 254*	Calculus IV	5
(was MATH 154)		
MATH 220	Linear Algebra	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

*It is recommended that sequence courses be completed at one institution.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Demonstrate the ability to use foundational knowledge in mathematics, physics, chemistry, and biology.
- Design and conduct experiments.
- Make measurements, analyze data, and interpret results.
- Problem solving, team, self-assessment and lifelong learning skills.
- Communicate effectively.

Revised June 2019 (Effective Fall 2019)

Notes:

Baccalaureate institutions party to this agreement are: UW Seattle, WSU, EWU, Gonzaga U, St. Martin's U, Seattle Pacific U, Seattle U and Walla Walla U.

Additional general educational requirements, cultural diversity requirements, and foreign language requirements, as required by the receiving institution, must be met prior to the completion of a baccalaureate degree.

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Science - Transfer (AS-T)

Biological Sciences

The biological sciences study living organisms and fundamental life processes that form the basis for careers in healthcare, research, teaching and related fields. Begin studies toward a bachelor's degree in general or molecular biology, botany, ecology, fisheries, genetics, marine science, soil science, wildlife management or zoology.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Biological Sciences - AS-T** (lowercolumbia.edu/program-maps/stem/AST-Biological-Sciences)

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative / Symbolic Reasoning Skills:**
10 credits – MATH& 151* Calculus I AND MATH& 152* Calculus II.
- **Humanities and Social Sciences:**
15 credits – Selected from at least three disciplines on the Distribution List. A minimum of 5 credits in Humanities, and a minimum of 5 credits in Social Science, and an additional 5 credits in either Humanities or Social Science.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title.

Pre-Major Requirements

BIOL& 221*	Majors Ecology/Evolution: w/Lab	5
BIOL& 222*	Majors Cell/Molecular: w/ Lab	5
BIOL& 223*	Majors Organismal Phys: w/ Lab	5
CHEM& 161*	General Chemistry w/Lab I	5
CHEM& 162*	General Chemistry w/Lab II	5
CHEM& 163*	General Chemistry w/Lab III	5
CHEM& 261*	Organic Chemistry w/Lab I	5
CHEM& 262*	Organic Chemistry w/Lab II	5
MATH& 146	Introduction to Statistics OR	5
MATH& 153*	Calculus III	

Suggested Electives

BIOL& 260	Microbiology	5
CHEM& 263*	Organic Chemistry w/Lab III	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Biology students will become familiar with the (empirical) scientific method of problem solving.
- Majors-level biology students will perform competitively with their peers at four-year institutions or professional programs.
- Majors-level biology students will demonstrate proficiency with life process mechanisms such as biological chemistry; cellular metabolism; heredity, anatomy and physiology of major animal organ systems; plant structure, as well as transport and reproductive function; diversity and classification of organisms; evolution; and ecology.
- Biology students will express ideas and information in writing in a format that is clear and appropriate to a science-literate audience.
- Biology students will apply various techniques and processes using information, data, and situations, to draw logical, rational and ethical and coherent conclusions.
- Major-level Biology students will achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

Revised August 2022 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* for checking specific major requirements of baccalaureate institutions in the year prior to transferring. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Biology DTA/MRP

Biology

This pathway is applicable to students planning to prepare for upper division Bachelor's degree majors in Biology, including the medical field. This Biology MRP streamlines and facilitates preparation for upper division coursework in Biology across the state. Students planning a career in medicine, medical technology, dentistry, chiropractic,

pharmacy, physical therapy or veterinary can begin their studies at LCC and gain a solid foundation in the basic sciences required in those fields.

Careers in medical professions require several years of advanced study. Medical coursework is rigorous and entry into professional schools is very competitive. A number of medical schools require a foreign language.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Biology - DTA/MRP (lowercolumbia.edu/program-maps/stem/DTA-MRP-Biology)**

Degree Requirements

- **Communications:**

15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.

- **Quantitative Skills:**

5 credits – MATH& 151 Calculus I

- **Humanities:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.

- **Diversity:**

5 credits - From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by "DIV" attached to the course title. Example: SOC& 101 - Intro to Sociology: DIV.

- **Natural Sciences:**

30 credits – BIOL& 221 Majors Ecology/Evolution: w/Lab, BIOL& 222 Majors Cell/Molecular: w/Lab, BIOL& 223 Majors Organismal Phys: w/Lab, CHEM& 161 General Chem w/Lab I, CHEM& 162 General Chem w/Lab II, and CHEM& 163 General Chem w/Lab III.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.

- **Electives:**

10 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 90

It is recommended that sequence courses be completed at one institution.

Students completing this program should acquire the following skills and abilities:

Core Competencies*

- Apply the scientific method of problem solving.
- Use quantitative reasoning to interpret data
- Demonstrate critical thinking.
- Express ideas and information in writing in a format that is clear and appropriate to both scientific and non-scientific audiences.
- Evaluate and explain the relationship between science and society.

Core Concepts*

- Apply the concepts of evolution to the diversity and adaptation of living organisms.
- Explain how matter and energy are stored and transformed by living systems.
- Explain how information is stored, copied, transferred, and expressed in biological systems.
- Describe the structure and function of biological components at various levels.
- Describe the significance of systems in maintaining life.

*Vision and Change: A Call to Action, AAAS (American Association for the Advancement of Science) with support from NSF (National Science Foundation)

Revised May 2021 (Effective Summer 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Business DTA/MRP

Business

The Associate in Business degree program is designed for students planning to transfer to a university program in Washington. Management, accounting, marketing, finance, operations management, and human resources are some of the specializations available for those pursuing advanced studies.

Notes to students:

- You will need to have early contact with an advisor at the potential transfer institution regarding specific course choices in each area (Humanities, Social Science and Business Law or Introduction to Law) and for the electives.

- It is up to you to check with the transfer institution regarding requirements for overall minimum GPA, a higher GPA in a selected subset of courses, or a specific minimum grade in one or more courses such as math or English.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Business - AA-DTA/MRP (lowercolumbia.edu/program-maps/business/DTA-MRP-Business)**
- **Business - AA-DTA/MRP (online) (lowercolumbia.edu/program-maps/business/DTA-MRP-Business-Online)**

Degree Requirements

- **Communications:**

10 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II. Note 1: To meet the current EWU requirements, the second English Composition course must be equivalent to EWU's English 201 College Composition: Analysis, Research, and Documentation.

- **Quantitative / Symbolic Reasoning Skills:**

10 credits – MATH& 148 Business Calculus AND one of the following 5 credit courses: MATH 125 Applied College Algebra. MATH& 142 Precalculus II or a higher level math that includes calculus as a prerequisite. Intermediate Algebra proficiency required.

- **Humanities:**

15 credits – From the Distribution List. Selected from at least two disciplines. No more than 10 credits per discipline area. No more than 5 credits in world languages. No more than 5 credits in foreign language at the 100 level. No more than 5 credits of performance/skills classes are allowed. Note 2: Students intending the international business major should consult their potential transfer institutions regarding the level of world language required for admission to the major. Five credits in world languages may apply to the Humanities requirement. Note 3: Students are encouraged to include a speech or oral communication course (not small group communication).

- **Diversity:**

5 credits - From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by "DIV" attached to the course title. Example: SOC& 101 - Intro to Sociology:DIV.

- **Natural Sciences:**

15 credits – MATH 246 Probability and Statistics AND 10 additional credits in physical, biological and/or earth science, including at least one lab course, from the Distribution List. No more than 10 credits allowed in any one discipline. Note 4: Students intending the manufacturing management major at WWU should consult WWU regarding the selection of natural science courses required for admission to the major.

- **Social Sciences:**

15 credits – ECON& 201 Micro Economics AND ECON& 202 Macro Economics AND an additional 5 credits of Social Science from the Distribution List for Transfer Degrees.

- **Electives:**

5 credits of non-business electives except as noted below: Note 6: Five institutions have requirements for admission to the major that go beyond those specified above. Students can meet these requirements by careful selection of the elective University Course Equivalent to:

- WSU (all campuses): Management Information Systems MIS 250
- Gonzaga: Management Information Systems BMIS 235
- PLU: Computer Applications CSCE 120, either an equivalent course or skills test
- SPU: Spreadsheets (BUS 1700), either an equivalent course or skills test
- WWU: Introduction to Business Computer Systems MIS 220 (for transfer students entering fall 2014)

Business Courses (20 credits)

ACCT& 201*	Principles of Accounting I	5
ACCT& 202*	Principles of Accounting II	5
ACCT& 203*	Principles of Accounting III	5
BUS& 201	Business Law	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

*It is recommended that sequence courses be completed at one institution.

Universities with a lower division Business Law requirement: UW (all campuses), WSU (all campuses), EWU, CWU, WWU, Gonzaga, SMU, SPU, Whitworth.

The following institutions do not require a *lower division* Business Law course and agree to accept the course taken as part of this degree as a lower division elective, but generally not as an equivalent to the course required at the upper division: Heritage, PLU, SU, and Walla Walla University.

Note 5: International students who completed a business law course specific to their home country must take a business law course at a U.S. institution in order to demonstrate proficiency in U.S. business law.

Students completing this program should acquire the following skills and abilities:

- Develop an understanding of market economies, supply and demand, cost benefit principles, resource allocation and key microeconomic terms.
- Analyze macroeconomic theories, fiscal and monetary policy, the banking system and Federal Reserve, factors affecting economic growth and international trade and finance.

- Apply a variety of mathematical and statistical procedures to accounting, business, and economic data and interpret the results to arrive at informed business decisions.
- Demonstrate an understanding of our legal system, the importance of contractual relationships, and the ethical implications of business transactions.
- Work effectively in collaborative/team environments to solve problems and complete projects.
- Develop skills utilizing common technological tools to conduct research and solve problems.
- Demonstrate the ability to use accounting and business terminology effectively in oral and written communication.
- Analyze and record business transactions in accordance with Generally Accepted Accounting Principles, communicate financial information about an organization and financial statement analysis.

Revised March 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Business DTA/MRP

Business - Online

The Associate in Business degree program is designed for students planning to transfer to a university program in Washington. Management, accounting, marketing, finance, operations management, and human resources are some of the specializations available for those pursuing advanced studies.

Notes to students:

- You will need to have early contact with an advisor at the potential transfer institution regarding specific course choices in each area (Humanities, Social Science and Business Law or Introduction to Law) and for the electives.
- It is up to you to check with the transfer institution regarding requirements for overall minimum GPA, a higher GPA in a selected subset of courses, or a specific minimum grade in one or more courses such as math or English.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Business - AA-DTA/MRP (online) (lowercolumbia.edu/program-maps/business/DTA-MRP-Business-Online)**

Degree Requirements

- **Communications:**

10 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II. Note 1: To meet the current EWU requirements, the second English Composition course must be equivalent to EWU's English 201 College Composition: Analysis, Research, and Documentation.

- **Quantitative / Symbolic Reasoning Skills:**

10 credits – MATH& 148 Business Calculus AND one of the following 5 credit courses: MATH 125 Applied College Algebra. MATH& 142 Precalculus II or a higher level math that includes calculus as a prerequisite. Intermediate Algebra proficiency required.

- **Humanities:**

15 credits – From the Distribution List. Selected from at least two disciplines. No more than 10 credits per discipline area. No more than 5 credits in world languages. No more than 5 credits in foreign language at the 100 level. No more than 5 credits of performance/skills classes are allowed. Note 2: Students intending the international business major should consult their potential transfer institutions regarding the level of world language required for admission to the major. Five credits in world languages may apply to the Humanities requirement. Note 3: Students are encouraged to include a speech or oral communication course (not small group communication).

- **Diversity:**

5 credits - From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by "DIV" attached to the course title. Example: SOC& 101 - Intro to Sociology:DIV.

- **Natural Sciences:**

15 credits – MATH 246 Probability and Statistics AND 10 additional credits in physical, biological and/or earth science, including at least one lab course, from the Distribution List. No more than 10 credits allowed in any one discipline. Note 4: Students intending the manufacturing management major at WWU should consult WWU regarding the selection of natural science courses required for admission to the major.

- **Social Sciences:**

15 credits – ECON& 201 Micro Economics AND ECON& 202 Macro Economics AND an additional 5 credits of Social Science from the Distribution List for Transfer Degrees.

- **Electives:**

5 credits of non-business electives except as noted below: Note 6: Five institutions have requirements for admission to the major that go beyond those specified above. Students can meet these requirements by careful selection of the elective University Course Equivalent to: • WSU (all campuses): Management Information Systems MIS 250 • Gonzaga: Management Information Systems BMIS 235 • PLU: Computer Applications CSCE 120, either an equivalent course or skills test • SPU: Spreadsheets (BUS 1700), either an equivalent course or skills test • WWU: Introduction to Business Computer Systems MIS 220 (for transfer students entering fall 2014)

Business Courses (20 credits)

ACCT& 201*	Principles of Accounting I	5
ACCT& 202*	Principles of Accounting II	5
ACCT& 203*	Principles of Accounting III	5
BUS& 201	Business Law	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

*It is recommended that sequence courses be completed at one institution.

Universities with a lower division Business Law requirement: UW (all campuses), WSU (all campuses), EWU, CWU, WWU, Gonzaga, SMU, SPU, Whitworth.

The following institutions do not require a *lower division* Business Law course and agree to accept the course taken as part of this degree as a lower division elective, but generally not as an equivalent to the course required at the upper division: Heritage, PLU, SU, and Walla Walla University.

Note 5: International students who completed a business law course specific to their home country must take a business law course at a U.S. institution in order to demonstrate proficiency in U.S. business law.

Students completing this program should acquire the following skills and abilities:

- Develop an understanding of market economies, supply and demand, cost benefit principles, resource allocation and key microeconomic terms.
- Analyze macroeconomic theories, fiscal and monetary policy, the banking system and Federal Reserve, factors affecting economic growth and international trade and finance.
- Apply a variety of mathematical and statistical procedures to accounting, business, and economic data and interpret the results to arrive at informed business decisions.
- Demonstrate an understanding of our legal system, the importance of contractual relationships, and the ethical implications of business transactions.
- Work effectively in collaborative/team environments to solve problems and complete projects.
- Develop skills utilizing common technological tools to conduct research and solve problems.

- Demonstrate the ability to use accounting and business terminology effectively in oral and written communication.
- Analyze and record business transactions in accordance with Generally Accepted Accounting Principles, communicate financial information about an organization and financial statement analysis.

Revised March 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Applied Science - Transfer (AAS-T)

Business Management

for LCC BAS-OLTM

Entry-level supervisory and management positions require people with a strong foundation in general business, accounting, economics, and computers. The Business Management AAS-T degree is also designed for people interested in starting a business or preparing for advancement opportunities. This program also meets the academic requirements to apply for admittance into the Bachelor of Applied Science degree in Organizational Leadership and Technical Management at Lower Columbia College which prepares business professionals for positions in leadership, technical management and supervision.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher with the exception of MATH& 131
- **Natural Sciences:**
5 credits - Natural Science with lab course from the Distribution List
- **Human Relations / Diversity**
5 credits – BUS 144 Management of Human Relations: DIV
- **Social Science:**
5 credits – BUS& 101 Intro to Business OR ECON& 201 Micro Economics

Program Requirements

ACCT 101 ACCT 135 ACCT& 201	Intro to Accounting Concepts OR Accounting For Non- Accountants OR Principles of Accounting I	5
BUS 100	Foundations of Business Success	3
BUS 150	Customer Service/ Management	5
BUS 165	Salesmanship	5
BUS& 201	Business Law	5
BUS 240	Principles of Supervision	5
BUS 244	Human Resource Management	5
BUS 245	Principles of Management	5
BUS 259	Starting/Managing a Small Business	5
BUS 264	Principles of Marketing	5
BUS 270	Introduction to Project Management	5
BUS 294	Career Success	2
CS 110	Introduction to 3 Microcomputer Applications	
BTEC 131	Introduction to Spreadsheets	5
ECON 105 OR ECON& 201	Introduction to Economics OR Micro Economics	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 93 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business work environment. (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions. (GS Critical Thinking)
- Apply mathematical information to make decisions and solve problems in business. (GS Numeracy/Quantitative Literacy)
- Interact effectively with individuals and groups. (GS Interpersonal Relations)
- Perform basic mathematical calculations specific to business activities, such as payroll, taxes, account reconciliation, and financial statement analysis. (GS)
- Perform basic bookkeeping and accounting tasks using spreadsheets and industry standard accounting software.
- Gather and analyze data to solve business-related problems. (GS)
- Identify the relationships between business functions such as accounting, marketing, purchasing, human resources, and operations management.
- Describe the relationship between economics concepts and business issues.
- Describe the relationship between business activities and legal constructs, such as Contract Law and the Uniform Commercial Code.
- Compose written business documents, including email, reports, and business plans using industry standards software. (GS)
- Develop and deliver business presentations. (GS)
- Collaborate in teams to solve business problems. (GS)
- Articulate the relationship between human behavior, a diverse work environment, and business outcomes. (GS)

Revised May 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science (AAS)

Business Management

Entry-level supervisory and management positions require people with a strong foundation in general business, accounting, economics, and computers. The Business Management AAS degree is also designed for people interested in starting a business or preparing for advancement opportunities.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Business Management - AAS** (lowercolumbia.edu/program-maps/business/AAS-Business-Management)

Degree Requirements

- **Communications:**
5 credits - BUS 119 Business Communications OR ENGL& 101 English Composition I.
- **Quantitative Skills:**
5 credits – BUS 104 Business Math Applications.
- **Human Relations / Social Science / Diversity**
5 credits – BUS 144 Management of Human Relations: DIV.
- **Humanities / Natural Sciences:**
5 credits – CMST& 220 Public Speaking (recommended) OR choose 5 credits from the Distribution List.
- **Electives:**
5 credits – BUS 159 Principles of Retailing OR BUS 290 Design Thinking & Entrepreneurship recommended.

Program Requirements

ACCT 101	Intro to Accounting Concepts	5
ACCT 135	OR	
ACCT& 201	Accounting F/Non Accountants OR Principles of Accounting I	
BUS 100	Foundations of Business Success	3
BUS& 101	Introduction to Business	5
BUS 150	Customer Service/ Management: DIV	5
BUS 165	Salesmanship	5
BUS& 201	Business Law	5
BUS 240	Principles of Supervision	5
BUS 244	Human Resource Management	5
BUS 245	Principles of Management	5
BUS 259	Start/Managing a Small Business	5

BUS 264	Principles of Marketing	5
BUS 270	Introduction to Project Management	5
BUS 294	Career Success	2
BTEC 104 OR CS 110	Introduction to Business Technology OR Introduction to Microcomputer Applications	5 3
BTEC 131	Introduction to Spreadsheets	5
ECON 105 OR ECON& 201	Introduction to Economics OR Micro Economics	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 98-100 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business work environment. (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions. (GS Critical Thinking)
- Apply mathematical information to make decisions and solve problems in business. (GS Numeracy/Quantitative Literacy)
- Interact effectively with individuals and groups. (GS Interpersonal Relations)
- Perform basic mathematical calculations specific to business activities, such as payroll, taxes, account reconciliation, and financial statement analysis. (GS)
- Perform basic bookkeeping and accounting tasks using spreadsheets and industry standard accounting software.
- Gather and analyze data to solve business-related problems. (GS)
- Identify the relationships between business functions such as accounting, marketing, purchasing, human resources, and operations management.
- Describe the relationship between economics concepts and business issues.
- Describe the relationship between business activities and legal constructs, such as Contract Law and the Uniform Commercial Code.

- Compose written business documents, including email, reports, and business plans using industry standards software. (GS)
- Develop and deliver business presentations. (GS)
- Collaborate in teams to solve business problems. (GS)
- Articulate the relationship between human behavior, a diverse work environment, and business outcomes. (GS)

Revised December 2021 (Effective Summer 2022)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Students are strongly encouraged to take ENGL& 101 or BUS 119 before enrolling into any 200-level courses.

Legend:

- A - Course usually offered all quarters.
- F - Course usually offered Fall Quarter.
- W - Course usually offered Winter Quarter.
- Sp - Course usually offered Spring Quarter.
- S - Course usually offered Summer Quarter.

Associate in Science - Transfer (AS-T)

Chemistry

Chemistry explores matter and the basic properties and processes that surround us. Prepare for advanced studies and to work in a laboratory, manufacturing, research, management, environmental services and related fields. Analysts and technicians assist scientists in general lab work or process control. Students can also specialize in chemistry education.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Chemistry - AS-T (lowercolumbia.edu/program-maps/stem/AST-Chemistry)**

Degree Requirements

• Communications:

5 credits - ENGL& 101 English Composition I.

• Quantitative / Symbolic Reasoning Skills:

10 credits – MATH& 151* Calculus I AND MATH& 152* Calculus II.

- **Humanities / Social Sciences:**

15 credits – Selected from at least three disciplines on the Distribution List. A minimum of 5 credits in Humanities, and a minimum of 5 credits in Social Science, and an additional 5 credits in either Humanities or Social Science.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.

- **Electives:**

Sufficient additional college-level credits to meet the 90 credit minimum. These remaining credits must include program advisor approved credits.

Pre-Major Requirements

*It is recommended that sequence courses be completed at one institution.

CHEM& 161*	General Chemistry w/Lab I	5
CHEM& 162*	General Chemistry w/Lab II	5
CHEM& 163*	General Chemistry w/Lab III	5
MATH& 146	Introduction to Statistics OR	5
MATH& 153*	Calculus III	
PHYS& 221*	Engr Physics I w/Lab	5
PHYS& 222*	Engr Physics II w/Lab	5
PHYS& 223*	Engr Physics III w/Lab	5
CHEM& 261*	Organic Chemistry w/Lab I	5
CHEM& 262*	Organic Chemistry w/Lab II	5
CHEM& 263*	Organic Chemistry w/Lab III	5

Recommended Electives

CHEM 231	Quantitative Analysis	5
MATH 220	Linear Algebra	5
MATH 240	Differential Equations	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Will have foundations in the concepts and applications of current chemical and scientific theories.
- Ability to design, carry-out, record and analyze the results of chemical experiments.
- Ability to use modern instrumentation and classical techniques to design experiments, and to properly record the results of their experiments.
- Skilled in problem solving, critical thinking, and analytical reasoning.
- Students completing a Chemistry AS-T degree will be prepared for transfer to a chemistry program at baccalaureate-granting colleges and universities. Transfer readiness is evidenced by skills in applying scientific principles, using technology and mathematics to solve chemistry problems; understanding experimental processes; and understanding of chemical conceptual content.
- Will show evidence of ability in college-wide outcomes: numeracy, critical reasoning, Revised communication, and interpersonal skills.

Revised March 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* for checking specific major requirements of baccalaureate institutions in the year prior to transferring. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Certificate of Completion (COC)

Commercial Truck Driving

The Commercial Truck Driving Certificate of Completion provides the Washington State required 40 hours of classroom training and 120 hours of truck driving skill development to prepare students for the Washington State Class A commercial driver's license exam.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Commercial Truck Driving - COC (lowercolumbia.edu/program-maps/trades/CO-C-Commercial-Truck-Driving)**

Certificate Requirements

DHET 228	Commercial Driving	4
DHET 229	Commercial Truck Driving	6

Total credits required to earn this certificate: 10

Students completing this program should acquire the following skills and abilities:

- Perform a commercial vehicle pre-trip inspection.
- Demonstrate an understanding of the function and operation of key vehicle systems.
- Demonstrate an understanding of Washington State laws concerning commercial vehicle operation.
- Demonstrate the basic skills required for safe truck operation including driving, parking, etc.
- Perform a pre-trip inspection on a Class A tractor/trailer vehicle.
- Safely couple and uncouple trailers utilizing fifth wheel hitches.
- Demonstrate safe and efficient commercial truck driving skills, such as backing, parking, etc.
- Demonstrate the correct use of transmission gearing and braking under various operating conditions.
- Explain the legal documentation requirements as related to commercial driving.

Revised July 2018 (Effective Fall 2018)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Communication Studies Focus

The speech program provides general education courses that assist students in improving communication skills and their understanding of communication. Credit and advanced skills may also be earned by participating in LCC's Program for intercollegiate debate competition.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Communication Studies - AA-DTA (lowercolumbia.edu/program-maps/arts/AAD-TA-Communication-Studies)**

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits - MATH& 107 or higher (excluding MATH& 131).
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: CMST 250 (was SPCH 109) Intercultural Communication:DIV.
- **Electives:**
25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List.

Recommended Electives

CMST& 210 (was SPCH 104)	Interpersonal Communication	5
CMST 250 (was SPCH 109)	Intercultural Communication:DIV	5
CMST 136/7/8, 236/7/8 (was SPCH 136/7/8, 236/7/8)	Intercollegiate Debate	2 ea.

CMST 126/7/8, 226/7/8 (was SPCH 126/7/8, 226/7/8)	Competitive Public Speaking	2 ea.
CMST 240 (was SPCH 209)	Rhetorical Criticism/Pop Culture:DIV	5
If not used for Communication requirement:		
CMST& 220 (was SPCH 110)	Public Speaking OR Small Group	5
CMST& 230 (was SPCH 114)	Communication	

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- Communication: Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- Numeracy: Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.

- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Express an understanding of the complexity of communication theory
- Identify and describe factors that contribute to effective communication
- Identify and perform skills and behaviors that make communication more effective
- Effectively use verbal and nonverbal communication to inform and persuade to diverse audiences

Revised June 2019

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Certificate of Completion (COC)

Community, Health, and Wellness Advocate

The Community, Health, and Wellness Advocate (CHWA) is a multi-skilled care manager who helps the patient navigate the complex maze of health and social service providers to find appropriate care. The CHWA educates patients and family members about healthy behaviors, monitors compliance with care management plans, and can accompany a patient on healthcare appointments. The advocate fosters mutual trust with a patient to develop an on-going professional relationship. Health and Wellness Advocates are required to have a wide-ranging skill set and knowledge base. Through a solid foundation in medical ethics and cultural awareness, the CHWA addresses the physical health, mental health, drug use, and social factors affecting a patient's health and wellness. The advocate must be familiar with the appropriate local, state, regional, and national agencies available to assist the patient, including familiarity with health information systems and healthcare funding.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Community, Health and Wellness Advocate – COC (lowercolumbia.edu/program-maps/business/COC-Community-Health-and-Wellness-Advocate)**

Certificate Requirements

AH 166	Mental Health First Aid for Adults	1
CS 110	Intro to Microcomputer Applications	3
BTEC 165	Cultural Awareness for Care Professionals: DIV	5
BTEC 170	Community Health Advocacy	5
BTEC 181	Medical Terminology I	3
OR	OR	
MEDA 101	Medical Vocabulary I	
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

To earn a Community Health and Wellness Advocate Certificate of Completion, you must complete a minimum of 18 credits and pass each course listed in the program requirements with a C or above.

Students completing this program should acquire the following skills and abilities:

- Utilize a clinical decision support tool and electronic health records to view cross-system health and social service utilization to identify care opportunities
- Provide in-person client health assessments
- Accompany the client to critical appointments
- Engage the client in developing a health action plan
- Coordinate and mobilize treating/authorizing entities as necessary to reinforce and support the client's health action goals
- Deliver culturally appropriate interventions, educational and informational materials

Revised August 2022 (Effective Summer 2023)

Notes:

Consult an advisor if you have any questions.

Certificate of Proficiency (COP)

Community, Health, and Wellness Advocate

The Community, Health, and Wellness Advocate (CHWA) is a multi-skilled care manager who helps the patient navigate the complex maze of health and social service providers to find appropriate care. The CHWA educates patients and family members about healthy behaviors, monitors compliance with care management plans, and can accompany a patient on healthcare appointments. The advocate fosters mutual trust with a patient to develop an ongoing professional relationship. Health and Wellness Advocates are required to have a wide-ranging skill set and knowledge base. Through a solid foundation in medical ethics and cultural awareness, the CHWA addresses the physical health, mental health, drug use, and social factors affecting a patient's health and wellness. The advocate must be familiar with the appropriate local, state, regional, and national agencies available to assist the patient, including familiarity with health information systems and healthcare funding.

Certificate Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I OR BUS 119 Business Communications.
- **Quantitative Skills:**
5 credits – BUS 104 Business Math Applications OR MATH& 107 Math in Society.
- **Diversity:**
5 credits – BTEC 165 Cultural Awareness for Care Professionals.

Core Program Requirements

AH 166	Mental Health First Aid for Adults	1
BUS 100	Foundations of Business Success	3
BTEC 104ORCS 110ANDBTEC 146	Intro to Business TechnologyORIntro to Microcomputer ApplicationsANDPowerpoint Fundamentals	5

BTEC 111	Word Processing I	5
BTEC 131	Introduction to Spreadsheets	5
BTEC 160	Medical Scribe	5
BTEC 164	Medical Office Law & Ethics	2
BTEC 165	Culture Awareness for Care Professionals:DIV	5
BTEC 170	Community Health Advocacy	5
BTEC 176	Social Determinants of Health	5
BTEC 177	Trauma Informed Care	5
BTEC 181	Medical Terminology I OR	3
MEDA 101	Medical Vocabulary I	
BTEC 182	Medical Terminology II OR	3
MEDA 102	Medical Vocabulary II	
BUS 294	Career Success	2
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

To earn a Community, Health, and Wellness Certificate of Proficiency, you must complete a minimum of **65 credits** and pass each course listed in program requirements with a **C** or better.

Students completing this program should acquire the following skills and abilities:

- Utilize a clinical decision support tool and electronic health records to view cross-system health and social service utilization to identify care opportunities
- Provide in-person client health assessments
- Accompany the client to critical appointments
- Engage the client in developing a health action plan
- Coordinate and mobilize treating/authorizing entities as necessary to reinforce and support the client's health action goals
- Deliver culturally appropriate interventions, educational and informational materials

November 2022 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor.
Consult the LCC catalog for LCC graduation requirements.

AS-T COMP E EE/MRP

Computer & Electrical Pre-Engineering

Complete basic background studies for transfer to a bachelor's degree program in computer and electrical engineering disciplines. Careers may be found in research, development, design, operations management, teaching, sales and consulting.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Computer and Electrical Pre-Engineering - AS-T COMP E EE/MRP (2 year) (lowercolumbia.edu/program-maps/stem/AST-Computer-and-Electrical-Pre-Engineering-2-year)**
- **Computer and Electrical Pre-Engineering - AS-T COMP E EE/MRP (3 year) (lowercolumbia.edu/program-maps/stem/AST-Computer-and-Electrical-Pre-Engineering-3-year)**

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Comp I.
- **Quantitative/Symbolic Reasoning Skills:**
25 credits – MATH& 151* Calculus I, MATH& 152* Calculus II, MATH& 153* Calculus III, MATH 220 Linear Algebra AND MATH 240 Differential Equations.
- **Humanities/ Social Sciences:**
15 credits – minimum 5 credits in Humanities, minimum 5 credits in Social Science, plus an additional 5 credits in either Humanities or Social Science from the Distribution List. ECON& 201 or 202 recommended.
- **Diversity:**
5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Intro to Sociology:DIV.
- **Electives:**
10 credits minimum – select electives appropriate for your intended major and intended baccalaureate institution.

Pre-Major Requirements (41 credits)

CHEM& 161*	General Chemistry w/Lab I	5
CS 170	Computer Programming	5
CS 270	Data Structures I	5
PHYS& 221*	Engr Physics I w/Lab	5
PHYS& 222*	Engr Physics II w/Lab	5
PHYS& 223*	Engr Physics III w/Lab	5
ENGR& 204	Electrical Circuits	6

Recommended Electives

BIOL& 221	Majors Ecology/Evolution: w/Lab	5
CHEM& 162*	General Chemistry 2/Lab II	5
ENGL& 235	Technical Writing	5
ENGR 205**	Design of Logic Circuits	5
ENGR 206	Microprocessor Systems	5
ENGR& 214	Statics	5
ENGR& 215	Dynamics	
ENGR& 224	Thermodynamics	5
MATH& 254* (was MATH 154)	Calculus IV	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

*It is recommended that sequence courses be completed at one institution.

Total transferable credits required to earn this degree: a minimum of 91 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Demonstrate the ability to use foundational knowledge in mathematics, physics, chemistry, and biology.
- Design and conduct experiments.

- Make measurements, analyze data, and interpret results.
- Problem solving, team, self-assessment and lifelong learning skills.
- Communicate effectively.

Revised April 2023 (Effective Summer 2023)

Notes:

Baccalaureate institutions party to this agreement are: UW Seattle, WSU, EWU, Gonzaga U, St. Martin's U, Seattle Pacific U, Seattle U and Walla Walla U.

Additional general education requirements, cultural diversity requirements, and foreign language requirements, as required by the receiving institution, must be met prior to the completion of a baccalaureate degree.

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Certificate of Proficiency (COP)

Computer Numerical Control

The Machine Trades certificate program is another route to employment as a machinist, millwright, tool and die maker, or other occupation related to manufacturing. Graduates may work as advanced apprentice machinists, machine operators, or programmers.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Computer Numerical Control - COP** (lowercolumbia.edu/program-maps/trades/COP-Computer-Numerical-Control)

Certificate Requirements

- **Communications:**
5 credits - ENGL 110 Industrial Communications is recommended.
- **Quantitative Skills:**
5 credits – MATH 106 Industrial Mathematics.
- **Human Relations / Social Science:**
5 credits – BUS 144 Management of Human Relations is recommended.

Program Requirements

BLPT 150	Machinists Blueprint Reading	5
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MASP 107 AND/OR MASP 111	Machining for Related Occupations AND/OR Machine Shop I (2-10 cr variable) for a combined total of 10 credits	10
MASP 204	CNC Machining Center Fundamentals	3
MASP 205	CNC Turning Center Fundamentals	3
MASP 221	CNC Milling	10
MASP 222	CNC Turning	10
MFG 105	Industrial Safety	3
MFG 115	Manufacturing Processes	5
MFG 230	Computer Integrated Manufacturing	4

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 69.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Apply industry standard safety and hazardous material handling guidelines.
- Display work appropriate behavior including positive attitude, timelines and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Demonstrate competencies required for entry level machinist.

- Interpret industrial blueprints.
- Demonstrate competency in documenting and communicating work performed using trade specific language.
- Demonstrate competency in inspecting machined parts.
- Program computer numerical control (CNC) mill and CNC lathe to manufacture parts per specification.
- Demonstrate competency in set up and operation of a computer numerical control (CNC) mill and CNC lathe to manufacture parts per specification.
- Demonstrate competency in set up and operation of manual machine tools to manufacture parts per specification.
- Apply CAD/CAM software to design and manufacture parts per specification.

Revised March 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Science - Transfer (AS-T)

Computer Science for WSU Vancouver

Begin studies toward a Bachelor of Science degree in Computer Science. For the AS-T degree in Computer Science, various courses are offered such as calculus, physics, and computer science. A student can also take individual course in areas of interest to deepen knowledge and understanding. This degree is intended for WSU-V transfer students.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Computer Science AS-T (WSU-V) (lowercolumbia.edu/program-maps/stem/AST-Computer-Science-WSU-V)**

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative / Symbolic Reasoning Skills:**
10 credits – MATH& 151* Calculus I AND MATH& 152* Calculus II.
- **Humanities / Social Sciences:**
15 credits – Must include 5 credits each Social Science (SS) and Humanities (HUM). See Distribution List. Confer with an advisor and the transfer university for acceptable

courses. Recommended: SS: ECON& 201/202, SOC& 101, POLS& 101/202, PSYC& 100/200, HIST& 127, HIST& 128 (ROOT/SS) HUM: ART& 100, DRMA& 101, HIST& 126

• **Lab Based Science Course:**

10 credits – Must have two categories of Natural Sciences Distribution. Confer with an advisor and the transfer university for acceptable courses. Recommended: PHYS& 223 or CHEM& 161 / BIOL& 160, BIOL& 221/222/223, BIOL& 241, ERSI 104/105/109, ENVS 215, GEOL& 101/208, OCEA& 101, GEOL 105/118.

• **Diversity:**

5 credits – HIST& 128 (ROOT/SS). Note that this course is also a ROOT/SS course.

• **Electives:**

0 - 15 credits - Confer with advisor and the transfer university for acceptable courses. Recommended: ENGL& 235 Technical Writing AND ANTH& 206 Cultural Anthropology (SS)OR HIST& 126 World Civilizations I (HUM)AND IT 249 Linux Systems.

Pre-Major Requirements

CS 170	Computer Programming	5
CS 270	Data Structures I	5
CS 275	Object-Orientated Prg in Java	5
CS 280	Advanced Data Structures	5
CS 285	Programming Tools	5
ENGR 205	Design of Logic Circuits	5
ENGR 206	Microprocessor Systems	5
MATH& 153*	Calculus III	5
MATH 215	Discrete Structures	5
MATH 220	Linear Algebra	5
MATH& 254	Calculus IV	5
PHYS& 221*	Engr Physics I w/Lab	5
PHYS& 222*	Engr Physics II w/Lab	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

*It is recommended that sequence courses be completed at one institution.

Total transferable credits required to earn this degree: 105 - 120 with a cumulative grade point average (GPA) of at least 2.0. Universities may expect certain minimal grades in various courses in order to certify into their computer science programs. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Apply mathematics to the solution of problems in computer science.
- Apply physics to the solution of problems in computer science.
- Discover, develop, and utilize algorithms suitable for the design of computer programs.
- Design and implement computer programs using various programming languages.

Revised June 2023 (Effective Summer 2023)

Notes:

WSUV requires: Must complete 5 of these 6 UCORE designations (by end of BS): ARTS, DIVR, HUM, SSCI, EQJS. Must complete one ROOT course. Courses listed under the Humanities ^(HUM)/Social Science ^(SS) for this degree transfer to WSU as one of these categories.

It is essential to work closely with your advisor due to course sequencing.

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* for checking specific major requirements of baccalaureate institutions in the year prior to transferring. Consult the LCC catalog for LCC graduation requirements.

- MATH 215 is offered winter quarter of even years.
- MATH 220 is offered every spring quarter.
- ENGR 205 and ENGR 206 are offered every other year.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Legend:

- A - Course usually offered all quarters.
- F - Course usually offered Fall Quarter.
- W - Course usually offered Winter Quarter.
- Sp - Course usually offered Spring Quarter.
- S - Course usually offered Summer Quarter.

Associate in Science - Transfer (AS-T)

Computer Science

Begin studies toward a Bachelor of Science degree in Computer Science. For the AS-T degree in Computer Science, various courses are offered such as calculus, physics, and computer science. A student can also take individual courses in areas of interest to deepen knowledge and understanding.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Computer Science - AST** (lowercolumbia.edu/program-maps/stem/AST-Computer-Science)
- **Computer Science AS-T (WSU-V)** (lowercolumbia.edu/program-maps/stem/AST-Computer-Science-WSU-V)

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative / Symbolic Reasoning Skills:**
10 credits – MATH& 151* Calculus I AND MATH& 152* Calculus II.
- **Humanities / Social Sciences:**
15 credits – Selected from at least three disciplines on the Distribution List. A minimum of 5 credits in Humanities, and a minimum of 5 credits in Social Science, and an additional 5 credits in either Humanities or Social Science in a different discipline.
- **Lab Based Science Course:**
5 credits – such as biology, chemistry, etc. Confer with advisor and the transfer university for acceptable courses.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.
- **Electives:**
At least 5 additional college-level credits to meet the 90 credit minimum. These remaining credits must include program advisor approved credits.

Pre-Major Requirements

CS 170	Computer Programming	5
CS 270	Data Structures I	5
CS 275	Object-Orientated Prg in Java	5
CS 280	Advanced Data Structures	5
MATH& 153*	Calculus III	5
MATH 215	Discrete Structures	5
MATH 220	Linear Algebra	5
PHYS& 221*	Engr Physics I w/Lab	5
PHYS& 222*	Engr Physics II w/Lab	5

PHYS& 223*	Engr Physics III w/Lab	5
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Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

*It is recommended that sequence courses be completed at one institution.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. Universities may expect certain minimal grades in various courses in order to certify into their computer science programs. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Apply mathematics to the solution of problems in computer science.
- Apply physics to the solution of problems in computer science.
- Discover, develop, and utilize algorithms suitable for the design of computer programs.
- Design and implement computer programs using various programming languages.

Revised November 2017

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* for checking specific major requirements of baccalaureate institutions in the year prior to transferring. Consult the LCC catalog for LCC graduation requirements.

- MATH 215 is offered winter quarter of even years.
- MATH 220 is offered every spring quarter.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Applied Science (AAS)

Criminal Justice

Modern law enforcement is a highly competitive career field. The more education you have, the better your chance of employment and advancement. Prepare for entry-level employment in law enforcement agencies and in some correctional facilities with an Associate in Applied Science degree in Criminal Justice. People working within those areas can use the program to enhance their skills.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Criminal Justice - AAS (lowercolumbia.edu/program-maps/social-science/AAS-Criminal-Justice)**

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 Public Speaking.
- **Quantitative / Symbolic Reasoning Skills:**
5 credits – MATH& 107 OR higher with the exception of MATH& 131.
- **Social Sciences:**
5 credits – PSYC& 100 General Psychology.
- **Humanities/Diversity:**
5 credits – HUM 104 Ethics and Cultural Values:DIV.
- **Natural Science with Lab:**
5 credits - choose from Distribution List
- **Electives:**
3-5 credits - Required Course: COLL 101 College Success, 2 credits; required course for new students

Program Requirements

CJ& 101	Intro to Criminal Justice	5
CJ 104	Intro to Policing	5
CJ& 105	Intro to Corrections	5
CJ& 106	Juvenile Justice	5
CJ& 110	Criminal Law	5
CJ 154	The American Legal System	5
CJ 180	Report Writing for Law Enforcement	5
CJ 184	Administration of Justice	5
CJ 187	Crisis Intervention for Professionals	3
CJ 260	Physical Evidence and Criminalistics	5
CS 110	Introduction to Microcomputer Applications	3
POLS& 202	US Government	5

Recommended Electives

SUDS 114	Suicide Assessment, Prevention, and Crisis Management	2
SUDS 288	Criminal Justice Cooperative Work Experience	Var.
COLL 289	Employment Portfolio Seminar	1
POLS 220	Law and Social Issues	5
SOC& 101	Introduction to Sociology:DIV	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/diversity-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 94-96 with a cumulative grade point average (GPA) of at least 2.0.

Students completing this program should acquire the following skills and abilities:

- Apply knowledge of criminal law in Washington State to hypothetical fact patterns (GS - Critical Thinking)
- Demonstrate knowledge of constitutional law as it pertains to criminal justice (GS - Critical Thinking)
- Analyze how a case proceeds through the criminal justice system (GS - Critical Thinking)
- Use effective verbal and written communication skills (GS - Communications)
- Demonstrate basic knowledge and application of methods of police patrol, operations, and management
- Analyze numerical data as applied to criminal justice (GS - Quantitative Reasoning)
- Generate satisfactory reports based on knowledge of investigative techniques, evidence gathering, searching, sketching, and on-scene interviewing
- Demonstrate knowledge of the juvenile justice system
- Demonstrate knowledge of skills needed in working with diverse populations and resolving conflict in a variety of situations (GS - Teamwork)
- Evaluate ethics and ethical applications in criminal justice

Revised May 2023 (effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor for specific requirements. Consult the LCC catalog for LCC graduation requirements.

The necessity for prerequisite classes or beginning classes in a quarter other than Fall will change this plan and may extend beyond two years.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Criminal Justice Focus

Modern law enforcement is a highly competitive career field. The more education you have, the better your chance of employment and advancement. Prepare for entry-level employment in law enforcement agencies and in some correctional facilities. People working within those areas can use the program to enhance their skills.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Criminal Justice - AA-DTA (lowercolumbia.edu/program-maps/social-science/AA-DTA-Criminal-Justice)**

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative / Symbolic Reasoning Skills:**
5 credits – MATH& 107 or higher with the exception of MATH& 131.
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC & 101 – Introduction to Sociology :DIV.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List

Recommended Electives

CJ& 101	Intro to Criminal Justice	5
CJ& 110	Criminal Law	5
CJ 154	The American Legal System	5
CJ 181	Report Writing for Law Enforcement	3
CJ 184	Administration of Justice	5
CJ 260	Physical Evidence/ Criminalistics	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- **Communication:** Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- **Critical thinking:** Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- **Interpersonal relations:** Interact effectively with individuals and/or within groups.

- Numeracy: Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Effectively communicate in writing.
- Prepare to take the Civil Service test.
- Understand the function of the legal system from the civil and criminal justice perspective.
- Apply basic investigative techniques in gathering and identifying crime scene evidence.
- Gain insight and awareness of the essential elements of community policing and problem solving.
- Understand how our criminal justice system evolved and how it functions.
- Identify and examine how the various agencies involved in the administration of justice interact.
- Demonstrate and explain the principles of criminal law including crimes against persons and property.

Revised June 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Certificate of Proficiency (COP)

Diesel/Heavy Equipment Preventative Maintenance

The Diesel/Heavy Equipment Preventative Maintenance program prepares students for careers in any industry that utilizes trucks, excavators, bulldozers, vessels or any other industrial equipment utilizing diesel power, hydraulics or other mechanical power transmission devices. This certificate is a shorter route to entry-level jobs.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Diesel/Heavy Equipment Preventative Maintenance - COP (lowercolumbia.edu/program-maps/trades/COP-Diesel-Heavy-Equipment-Preventative-Maintenance)**

Certificate Requirements

Communications:	5 credits – ENGL 110 Industrial Communications, ENGL& 101 OR 102 English Composition I & II, BUS 119 Business Communications, CMST& 220 Public Speaking, CMST&230 Small Group Communication
Quantitative Skills:	5 credits – MATH 106 Industrial Mathematics
Human Relations / Social Science:	5 credits – BUS 144 Management of Human Relations recommended

Program Requirements

HLTH 105	First Aid, CPR, and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3
DHET	Any DHET courses approved by the program Advisor	45

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required for this certificate: 64

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Apply industry standard safety and hazardous material handling guidelines.
- Display work appropriate behavior including positive attitude and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Complete tasks accurately, safely and within a given timeframe.
- Demonstrate competency in accurately following service information procedures and documenting work performed.
- Demonstrate the required skills needed to troubleshoot and repair basic mechanical systems including hydraulic, electrical, air and hydraulic brakes, engine, power transmission, chassis and air conditioning.

Revised March 2021 (Effective Summer 2021)

Notes:

Consult an advisor if you have any questions.

Associate in Applied Science (AAS)

Diesel/Heavy Equipment Technology

The Diesel/Heavy Equipment Technology program prepares students for careers in any industry that utilizes trucks, heavy equipment, vessels or any other industrial equipment utilizing diesel power, hydraulics or other mechanical power transmission devices. Some of the many different areas of graduate employment include trucking firms, heavy equipment dealerships, logging companies, railroads, tug boats, industrial maintenance and sales.

With a strong emphasis on fluid power, LCC's Diesel/Heavy Equipment Technology program is one of few accepted for membership in the National Fluid Power Association. Students may enter the program any quarter and may transfer to pursue a bachelor's degree in Diesel Power at several baccalaureate institutions.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Diesel/Heavy Equipment Technology - AAS (lowercolumbia.edu/program-maps/trades/AAS-Diesel-Heavy-Equipment)**

Degree Requirements

- **Communications:**

5 credits – ENGL 110 Industrial Communications recommended.

- **Quantitative Skills:**

5 credits – MATH 106 Industrial Mathematics recommended.

- **Human Relations / Social Science/Diversity:**

5 credits – BUS 144 Management of Human Relations:DIV meets all three of these requirements and is recommended.

- **Natural Sciences:**

5 credits – DHET 240 Fluid Power/Electrical Theory & Design OR TECH 100 Advanced Principles of Technology OR MFG 130 Materials Science OR choose from the Distribution List.

- **Electives:**

10 credits - Students choose from the following options: Option 1: DHET 228 Commercial Driving (4 cr) AND DHET 229 Commercial Truck Driving Operation (6 cr)

Option 2: COLL 289 Employment Portfolio Seminar (1 cr) AND DHET 288 Cooperative Work Experience (4 cr) AND WELD 105 Related Welding (5 cr)

A combination of the following courses, up to 5 credits, may be substituted for COLL 289 AND DHET 288 with program advisor permission: ACCT 101 (5 cr), ACCT 135 (5 cr), BUS& 101 (5 cr), BUS 150 (5 cr), CS 110 (3 cr), DHET 299 (1-5 cr), IT 111 (4 cr), MASP 107 (1-5 cr), or other WELD courses.

Program Requirements

DHET 100	Essentials of Mechanics	5
DHET 104	Electrical Systems	15
DHET 105	Vehicle Climate Control	5
DHET 114	Heavy Duty Brakes and Chassis	15
DHET 141	Hydraulics I	4
DHET 142	Hydraulics II	6
DHET 210	Diesel Engine Rebuild	15
DHET 215	Heavy Duty Engine Performance	15
DHET 220	Heavy Duty Power Trains	10
DHET 230	Advanced Shop Practices	5
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

**Total credits required to earn this degree: 129 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.*

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS Communication).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking).
- Apply mathematical information to perform tasks in industrial technology (GS Numeracy/Quantitative Literacy).
- Interact effectively with individuals and groups (GS Interpersonal relations).
- Apply industry standard safety and hazardous material handling guidelines.
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Complete tasks accurately, safely and within a given timeframe.
- Demonstrate competency in accurately following service information procedures and documenting work performed.
- Demonstrate the required skills needed to troubleshoot and repair advanced mechanical systems including hydraulic, electrical, air and hydraulic brakes, engine, power transmission, chassis and air conditioning.

Revised December 2021 (Effective Summer 2022)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science - Transfer (AAS-T)

Diesel/Heavy Equipment Technology for LCC BAS-OLTM

The Diesel/Heavy Equipment Technology AAS-T program prepares students for careers in any industry that utilizes trucks, heavy equipment, vessels or any other industrial

equipment utilizing diesel power, hydraulics or other mechanical power transmission devices. With a strong emphasis on fluid power, LCC's Diesel/Heavy Equipment Technology program is one of few accepted for membership in the National Fluid Power Association. This program also meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science degree in Organizational Leadership and Technical Management which prepares industry professionals for positions in leadership, management and supervision.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Diesel/Heavy Equipment Technology - AAS-T (BAS-OLTM Option) (lowercolumbia.edu/program-maps/trades/AAST-Diesel-Heavy-Equipment-to-BAS-OLTM)**

Degree Requirements

- **Communications:**
5 credits – ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher except for MATH& 131
- **Natural Sciences:**
5 credits – Natural Science with lab from the Distribution List
- **Diversity / Human Relations:**
5 credits – BUS 144 Management of Human Relations: DIV

Program Requirements

COLL 289	Employment Portfolio Seminar	1
CS 110	Introduction to Microcomputer Applications	3
DHET 100	Essentials of Mechanics	5
DHET 104	Electrical Systems	15
DHET 105	Vehicle Climate Control	5
DHET 114	Heavy Duty Brakes and Chassis	15
DHET 141	Hydraulics I	4
DHET 142	Hydraulics II	6
DHET 210	Diesel Engine Rebuild	15
DHET 215	Heavy Duty Engine Performance	15
DHET 220	Heavy Duty Power Trains	10

DHET 230	Advanced Shop Practices	5
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3
DHET 288	Cooperative Work Experience	2

DHET 299 may be substituted for COLL 289 and DHET 288 (3 credits) with program advisor permission.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 125

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS Communication).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking).
- Apply mathematical information to perform tasks in industrial technology (GS Numeracy/Quantitative Literacy).
- Interact effectively with individuals and groups (GS Interpersonal relations).
- Apply industry standard safety and hazardous material handling guidelines.
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Complete tasks accurately, safely and within a given timeframe.
- Demonstrate competency in accurately following service information procedures and documenting work performed.
- Demonstrate the required skills needed to troubleshoot and repair advanced mechanical systems including hydraulic, electrical, air and hydraulic brakes, engine, power transmission, chassis and air conditioning.

Revised May 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Drama Focus

Dramatic experience provides insights into the complex motivation for human behavior. Students interested in acting can complete an associate degree or begin studies to transfer to a baccalaureate program. Drama courses can also be an important supplement for those who plan to major in the humanities or social sciences.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Drama - AA-DTA (lowercolumbia.edu/program-maps/arts/AADTA-Drama)**

Degree Requirements

- **Communications:**

15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.

- **Quantitative/Symbolic Reasoning Skills:**

5 credits – MATH& 107 or higher with the exception of MATH& 131.

- **Humanities:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits in any one discipline. No more than 5 credits in performance/skills courses are allowed.

- **Natural Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline. PSYC, SOC, and POLS are recommended disciplines.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: DRMA& 101 – Introduction to Theatre:DIV.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

DRMA& 101	Introduction to Theatre:DIV	5
DRMA 106/7/8	Intro to Acting I, II, III	5 ea.
DRMA 206/7/8	Acting I, II, III	5 ea.
DRMA 116/7/8	Stage Crafts I, II, III	5 ea.
DRMA 119	Intro to Theatre Design & Tech	5
DRMA 196/7/8	Rehearsal & Performance I,II,III	5 ea.
DRMA 296/7/8	Rehearsal & performance IV,V,VI	5 ea.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- Communication: Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- Numeracy: Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.

- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Understand the complex nature of theatre both technical and artistic.

Revised June 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Applied Science (AAS)

Early Childhood Education

Transfers to the Lower Columbia College BAS-TE and BAS-OLTM degrees.

This program provides students with both academic coursework and field experience necessary to become a teacher of children ages birth to 8 years. The program allows the student to experience working with young children and mentor teachers. The program includes teaching methods in reading, language arts, mathematics, science, social studies, children's literature, expressive arts, and observation and assessment techniques. Emphasis is placed on educational foundations, child development, nutrition, families, communities, schools and other agencies. Students entering the Early Childhood Education Program must show evidence of a current TB test and obtain a cleared Portable Background check through Washington State Department of Children, Youth, and Families.

See: <https://www.dcyf.wa.gov/services/early-learning-providers/background-checks>

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Early Childhood Education - AAS (lowercolumbia.edu/program-maps/education/AAS-Early-Childhood-Education)**

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II OR CMST& 220 Public Speaking
- **Quantitative Skills:**
5 credits – MATH& 132 Math for Elementary Educators 2
- **Humanities:**
5 credits – from the Humanities distribution list. ENGL 270 Literature for Children OR CMST& 210 Interpersonal Communication recommended
- **Natural Sciences:**
10 credits - MATH& 131 Math for Elementary Educators I and 5 credits w/lab from the Natural Science distribution list. PHSC 109 Energy & Matter recommended
- **Social Sciences:**
10 credits – EDUC& 115 Child Development AND HIST& 136 World Civilizations I: DIV OR HIST& 137 World Civilizations II: DIV
- **Diversity:**
5 credits – EDUC& 205 Intro to Education

Program Requirements

ECED& 105	Intro Early Childhood Education	5
ECED& 107	Health/Safety Nutrition	5
ECED& 120	Practicum-Nurturing Relationships	2
ECED& 160	Curriculum Development	5
ECED& 170	Learning Environments	3
ECED& 180	Language & Literacy Development	3
ECED& 190	Observation/Assessment	3
ECED 225	STEAM in Early Childhood	5
ECED 261	Practicum IV/Principles	3
ECED 262	Practicum V/Practice	3
ECED 263	Practicum VI/ Professionalism	3
EDUC& 130	Guiding Behavior	3
EDUC& 150	Child, Family, Community	3
EDUC& 204	Inclusive Education-Birth through 21 focus	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 96 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children and families
- Discuss how children differ in their development and approaches to learning
- Apply knowledge of child development to intentionally support physical, social, emotional and cognitive growth
- Develop interpersonal skills to build relationships with children and families, enhancing children's self-esteem, social and emotional development, and problem solving skills
- Utilize theory, research, developmentally appropriate practice and a variety of instructional strategies when planning and implementing curriculum
- Individualize guidance and problem solving techniques to support social and emotional development
- Assess a variety of tools to strengthen the home to school connection
- Examine features of an anti-biased, culturally relevant environment/curriculum, not exclusive to race, ethnicity, family diversity, learning styles and abilities
- Create a professional development plan to maintain knowledge of current issues and trends in the field
- Communicate effectively through the spoken and written word and through visual materials for varied audience and purposes
- Compare and contrast a variety of observation and assessment tools, to analyze data with the purpose of developing age and developmentally appropriate curriculum
- Utilize critical thinking strategies to evaluate the validity of sources, and credit ideas or sources appropriately
- Analyze numerical data from child assessments to plan and implement developmentally appropriate teaching strategies

Revised May 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Certificate of Proficiency (COP)

Early Childhood Education (State Certificate)

LCC 's State Early Childhood Education Certificate provides the coursework for students to achieve level 7 on the Career Lattice. This certificate is the third level in the statewide one-year certificate. Built with Common Courses and Common Core Competencies, this certificate will transfer in and transfer to other community colleges in a seamless manner. Employees achieving this certificate will assist their centers in the Early Achievers Rating system. Students entering the Early Childhood Education Program must show evidence of a current TB test and obtain a cleared Portable Background check through Washington State Dept of Early Learning MERIT System.

See: <https://www.dcyf.wa.gov/services/early-learning-providers/background-checks>

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Early Childhood Education - COP (State Certificate) (lowercolumbia.edu/program-maps/education/COP-State-Early-Childhood-Education)**

Program Requirements

ECED& 105	Intro to Early Childhood Educ	5
ECED& 107	Health, Safety, and Nutrition	5
ECED& 120	Practicum-Nurturing Relationships	2
ECED& 160	Curriculum	5
ECED& 180	Lang/Literacy Development	3
ECED& 190	Observation/Assessment	3
ECED& 170 OREDUC& 130	Learning Environments OR Guiding Behavior	3
EDUC& 150	Child, Family, Community	3

Complete one of the following content areas:

EDUC& 130	Guiding Behavior (ECED Gen)	3
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ECED& 132	Infants/Toddler Care (Inf/Tod Care)	3
EDUC& 136	School Age Care (School-Age Care)	3
ECED& 134	Family Child Care (Family Child Care)	3
ECED& 139	Administration of ECE (Admin)	3

General Education Requirements

ENGL& 101	English Composition I or higher	5
MATH& 107	College Level Math or higher	5
EDUC& 115	Child Development	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 47

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children.
- Demonstrate an understanding of how children differ in their development and approaches to learning and use this knowledge to provide opportunities supporting physical, social, emotional, and cognitive growth.
- Develop relationships with children enhancing children's self-esteem, social-emotional development, and problem-solving skills.
- Use individual and group guidance and problem solving techniques to support positive relationships with children assisting their development in self esteem, self control, and self motivation.
- Gather empirical data employing a variety of observation and assessment tools, and analyze data with the purpose of developing age and developmentally appropriate curriculum.
- Utilize age appropriate music, art, and craft activities and ideas to foster the development of creativity, motor skills, and interpersonal skills in children.
- Create an anti-biased, culturally relevant environment modeling respect for the many facets that fall under the term "diversity".

- Demonstrate the ability to use theory, research, developmentally appropriate practice and a variety of instructional strategies when planning and implementing curriculum.
- Utilize age appropriate math, science, computer, and literature activities and ideas to foster the development of language, communication, and basic numerical skills, creativity, and curiosity regarding math, science, and technology.
- Develop personally and professionally, maintaining current knowledge in the field and participating in on-going professional development.

Revised October 2021 (Effective Fall 2021)

Notes:

This is a tentative schedule. Students may adjust the credit load according to their needs. The sequence should stay approximately as listed above even though there is some flexibility. Consult an advisor if you have any questions.

Certificate of Completion (COC)

Early Childhood Education (State Initial Certificate)

LCC's State Initial Early Childhood Education Certificate programs allow you to earn basic credentials for job opportunities quickly, then build on them for higher level credentials and job opportunities. The coursework in this certificate enables students to achieve level 5 on the Career Lattice. This certificate is the first level in the statewide one-year certificate. Built with Common Courses and Common Core Competencies, this certificate will transfer in and transfer to other community colleges in a seamless manner. Employees achieving this certificate will assist their centers in the Early Achievers Rating System. Students entering the Early Childhood Education Program must show evidence of a current TB test and obtain a cleared Portable Background check through Washington State Dept of Early Learning MERIT System.

See: <https://www.dcyf.wa.gov/services/early-learning-providers/background-checks>

Certificate Requirements

ECED& 105	Intro to Early Childhood Educ.	5
ECED& 107	Health, Safety, and Nutrition	5
ECED& 120	Practicum	2

Total credits required to earn this certificate: 12

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children.
- Demonstrate an understanding of how children differ in their development and approaches to learning and use this knowledge to provide opportunities supporting physical, social, emotional, and cognitive growth.
- Develop relationships with children enhancing children's self-esteem, social-emotional development, and problem-solving skills.

Revised May 2014 (Effective Fall 2014)

Notes:

This is a tentative schedule. Students may adjust the credit load according to their needs. The sequence should stay approximately as listed above even though there is some flexibility. Consult an advisor if you have any questions.

Certificate of Specialization (COS)

Early Childhood Education (State Short Certificate) - Administration

About The Program

LCC 's State Short Early Childhood Education Certificate of Specialization-Administration program provides the coursework for students to achieve level 6 on the Career Lattice. Built with Common Courses and Common Core Competencies, this certificate will transfer in and transfer to other community colleges in a seamless manner. Employees achieving this certificate will assist their centers in the Early Achievers Rating system. Students entering the Early Childhood Education Program must show evidence of a current TB test and obtain a cleared Portable Background check through Washington State Dept of Early Learning MERIT system.

See: <https://www.dcyf.wa.gov/services/early-learning-providers/background-checks>

Certificate Requirements

ECED& 105	Intro to Early Childhood Education	5
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ECED& 107	Health/Safety/Nutrition	5
ECED& 120	Practicum-Nurturing Relationships	2
EDUC& 115	Child Development	5
ECED& 139	Administration of ECE	3

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 20

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children.
- Demonstrate an understanding of how children differ in their development and approaches to learning and use this knowledge to provide opportunities supporting physical, social, emotional, and cognitive growth.
- Develop relationships with children enhancing children's self-esteem, social-emotional development, and problem-solving skills.

Revised March 2019 (Effective Spring 2019)

Notes:

Consult an advisor if you have any questions.

Certificate of Specialization (COS)

Early Childhood Education (State Short Certificate) - Family Child Care

LCC 's State Short Early Childhood Education Certificate of Specialization-Family Child Care program provides the coursework for students to achieve level 6 on the Career Lattice. Built with Common Courses and Common Core Competencies, this certificate will transfer in and transfer to other community colleges in a seamless manner. Employees achieving this certificate will assist their centers in the Early Achievers Rating system. Students entering the Early Childhood Education Program must show evidence of a current TB test and obtain a cleared Portable Background check through Washington State Dept of Early Learning MERIT system.

See: <https://www.dcyf.wa.gov/services/early-learning-providers/background-checks>

Certificate Requirements

ECED& 105	Intro to Early Childhood Education	5
ECED& 107	Health/Safety/Nutrition	5
ECED& 120	Practicum-Nurturing Relationships	2
EDUC& 115	Child Development	5
ECED& 134	Family Child Care	3

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 20

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children.
- Demonstrate an understanding of how children differ in their development and approaches to learning and use this knowledge to provide opportunities supporting physical, social, emotional, and cognitive growth.
- Develop relationships with children enhancing children's self-esteem, social-emotional development, and problem-solving skills.

Revised May 2014 (Effective Fall 2014)

Notes:

Consult an advisor if you have any questions.

Certificate of Specialization (COS)

Early Childhood Education (State Short Certificate) - General

LCC 's State Short Early Childhood Education Certificate of Specialization-General program provides the coursework for students to achieve level 6 on the Career Lattice. Built with Common Courses and Common Core Competencies, this certificate will transfer in and transfer to other community colleges in a seamless manner. Employees achieving this certificate will assist their centers in the Early Achievers Rating system. Students entering the Early Childhood Education Program must show evidence of a current TB test

and obtain a cleared Portable Background check through Washington State Dept of Early Learning MERIT System.

See: <https://www.dcyf.wa.gov/services/early-learning-providers/background-checks>

Certificate Requirements

ECED& 105	Intro to Early Childhood Education	5
ECED& 107	Health/Safety/Nutrition	5
ECED& 120	Practicum-Nurturing Relationships	2
EDUC& 115	Child Development	5
EDUC& 130	Guiding Behavior	3

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 20

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children.
- Demonstrate an understanding of how children differ in their development and approaches to learning and use this knowledge to provide opportunities supporting physical, social, emotional, and cognitive growth.
- Develop relationships with children enhancing children's self-esteem, social-emotional development, and problem-solving skills.

Revised May 2014 (Effective Fall 2014)

Notes:

Consult an advisor if you have any questions.

Certificate of Specialization (COS)

Early Childhood Education (State Short Certificate) - Infants & Toddlers

LCC 's State Short Early Childhood Education Certificate of Specialization-Infants and Toddlers program provides the coursework for students to achieve level 6 on the Career

Lattice. Built with Common Courses and Common Core Competencies, this certificate will transfer in and transfer to other community colleges in a seamless manner. Employees achieving this certificate will assist their centers in the Early Achievers Rating system. Students entering the Early Childhood Education Program must show evidence of a current TB test and obtain a cleared Portable Background check through Washington State Dept of Early Learning MERIT System.

See: <https://www.dcyf.wa.gov/services/early-learning-providers/background-checks>

Certificate Requirements

ECED& 105	Intro to Early Childhood Education	5
ECED& 107	Health/Safety/Nutrition	5
ECED& 120	Practicum-Nurturing Relationships	2
EDUC& 115	Child Development	5
ECED& 132	Infants/Toddler Care	3

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 20

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children.
- Demonstrate an understanding of how children differ in their development and approaches to learning and use this knowledge to provide opportunities supporting physical, social, emotional, and cognitive growth.
- Develop relationships with children enhancing children's self-esteem, social-emotional development, and problem-solving skills.

Revised May 2014 (Effective Fall 2014)

Notes:

Consult an advisor if you have any questions.

Certificate of Specialization (COS)

Early Childhood Education (State Short Certificate) - School Age Care

LCC 's State Short Early Childhood Education Certificate of Specialization-School Age Care program provides the coursework for students to achieve level 6 on the Career Lattice. Built with Common Courses and Common Core Competencies, this certificate will transfer in and transfer to other community colleges in a seamless manner. Employees achieving this certificate will assist their centers in the Early Achievers Rating system. Students entering the Early Childhood Education Program must show evidence of a current TB test and obtain a cleared Portable Background check through Washington State Dept of Early Learning MERIT System.

See: <https://www.dcyf.wa.gov/services/early-learning-providers/background-checks>

Certificate Requirements

ECED& 105	Intro to Early Childhood Education	5
ECED& 107	Health/Safety/Nutrition	5
ECED& 120	Practicum-Nurturing Relationships	2
EDUC& 115	Child Development	5
EDUC& 136	School Age Care	3

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 20

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children.
- Demonstrate an understanding of how children differ in their development and approaches to learning and use this knowledge to provide opportunities supporting physical, social, emotional, and cognitive growth.
- Develop relationships with children enhancing children's self-esteem, social-emotional development, and problem-solving skills.

Revised January 2015 (Effective Fall 2015)

Notes:

Consult an advisor if you have any questions.

Associate in Science - Transfer (AS-T)

Earth Sciences

Knowledge about the planet we inhabit, the surrounding universe and the natural forces that impact our world adds value to our daily lives and provides the basis for interesting careers in a broad range of disciplines: astronomy, geology, meteorology and oceanography. Begin studies for an advanced degree leading to positions with government agencies or private industry as an independent consultant, teacher, or researcher.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Earth Sciences - AS-T** (lowercolumbia.edu/program-maps/stem/AST-Earth-Sciences)

Degree Requirements

- **Communications:**

5 credits - ENGL& 101 English Composition I.

- **Quantitative / Symbolic Reasoning Skills:**

10 credits – MATH& 151* Calculus I AND MATH& 152* Calculus II.

- **Humanities / Social Sciences:**

15 credits – Selected from at least three disciplines from the Distribution List. A minimum of 5 credits in Humanities, and a minimum of 5 credits in Social Science, and an additional 5 credits in either Humanities or Social Science.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SPAN& 121 – Introduction to Spanish I:DIV.

- **Electives:**

At least 10 additional college-level credits to meet the 90 credit minimum. These remaining credits must include program advisor approved credits.

Pre-Major Requirements (50 credits)

CHEM& 161*	General Chemistry w/Lab I	5
CHEM& 162*	General Chemistry w/Lab II	5

CHEM& 163*	General Chemistry w/Lab III	5
ERSI 104	Intro to Earth Sciences	5
GEOL& 101	Intro Physical Geology	5
OCEA& 101	Intro to Oceanography OR	5
GEOL 118	Historical Geology	
MATH& 153*	Calculus III OR	5
MATH& 146	Introduction to Statistics	
PHYS& 221*	Engr Physics I w/Lab	5
PHYS& 222*	Engr Physics II w/Lab	5
PHYS& 223*	Engr Physics III w/Lab	5

Recommended Electives

MATH& 141	Precalculus I	5
MATH& 142	Precalculus II	5
ASTR& 101	Intro to Astronomy	5
OCEA& 101	Intro to Oceanography	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

*It is recommended that sequence courses be completed at one institution.

Students completing this program should acquire the following skills and abilities:

- Interpret and use various kinds of maps, globes, charts, and graphs.
- Apply scientific knowledge and techniques to current environmental issues.
- Describe basic earth processes in an interdisciplinary context.
- Effectively communicate earth sciences concepts.
- Demonstrate familiarity with global and regional geology and geography.

Revised February 2020 (Effective Winter 2020)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* for checking specific major

requirements of baccalaureate institutions in the year prior to transferring. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Earth Sciences Focus

Knowledge about the planet we inhabit, the surrounding universe and the natural forces that impact our world adds value to our daily lives and provides the basis for interesting careers in a broad range of disciplines: astronomy, geology, meteorology and oceanography. Begin studies for an advanced degree leading to positions with government agencies or private industry as an independent consultant, teacher, or researcher.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Earth Sciences - AA-DTA (lowercolumbia.edu/program-maps/stem/AADTA-Earth-Sciences)**

Degree Requirements

- **Communications:**

15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication

- **Quantitative / Symbolic Reasoning Skills:**

5 credits – MATH& 107 or higher with the exception of MATH& 131.

- **Humanities:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed. Drawing or photography recommended.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.

- **Natural Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement. ANTH& 205, BIOL& 100 and 5 additional credits from physical and/or earth science are recommended. BIOL& 100 meets the laboratory requirement.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SPAN& 121 – Intro to Spanish I:DIV.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List.

Recommended Natural Sciences and/or Electives

ASTR& 101	Intro to Astronomy	5
BIOL 130	Biodiversity of Pacific Northwest	5
CHEM& 161*	General Chemistry w/Lab I	5
CHEM& 162*	General Chemistry w/Lab II	5
CHEM& 163*	General Chemistry w/Lab III	5
ERSI 104	Introduction to Earth Sciences	5
GEOL& 101	Intro to Physical Geology	5
GEOL 118	Historical Geology	5
OCEA& 101	Intro to Oceanography	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

*It is recommended that sequence courses be completed at one institution.

MATH& 141 and 142 are highly recommended.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- Communication: Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- Numeracy: Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Interpret and use various kinds of maps, globes, charts, and graphs.
- Apply scientific knowledge and techniques to current environmental issues.
- Describe basic earth processes in an interdisciplinary context.
- Effectively communicate earth sciences concepts.
- Demonstrate familiarity with global and regional geology and geography.

Revised June 2019**Notes:**

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Arts - Direct Transfer Agreement (AA-DTA)**Economics Focus**

Study the use of resources in relation to the production and distribution of wealth. Economics is important for those interested in a career in business, law, finance,

government service and social service. Prepare to transfer to a baccalaureate institution in a variety of fields of study.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Economics - AA-DTA (lowercolumbia.edu/program-maps/social-science/AADTA-Economics)**

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative / Symbolic Reasoning Skills:**
5 credits - MATH& 107 or higher (excluding MATH& 131)
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement. ANTH& 205, BIOL& 100 and 5 additional credits from physical and/or earth science are recommended. BIOL& 100 meets the laboratory requirement.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline. PSYC, SOC, and POLS are recommended.
- **Diversity:**
5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 Introduction to Sociology:DIV.
- **Electives:**
25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

ACCT& 201	Principles of Accounting I	5
ACCT& 202	Principles of Accounting II	5
ECON 105	Introduction to Economics	5

ECON& 201	Micro Economics	5
ECON& 202	Macro Economics	5
HIST& 137	U.S. History 2	5
MATH& 151	Calculus I	5
MATH& 152	Calculus II	5
POLS& 202	American Government	5
POLS& 203	International Relations	5
PSYC& 100	General Psychology	5

iversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- **Communication:** Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- **Critical thinking:** Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- **Interpersonal relations:** Interact effectively with individuals and/or within groups.
- **Numeracy:** Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- **Diversity:** Examine the causes and expressions of difference, power, and discrimination.
- **Humanities:** Explore how people process, document, and express their social and cultural experience.
- **Social Science:** Examine society, behavior, and relationships among individuals within a society.

- **Natural Science:** Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Define scarcity and apply to the processes of production, distribution, and exchange.
- Define opportunity costs. Analyze the relationships between scarcity, costs, and the necessity for economic outcomes.
- Analyze market exchange through the equilibrium process and identify, describe, and explain price and output determination.
- Apply market exchange between individuals, business, government, and foreign markets to the economic choices available to individuals and society.
- Use economic models and theories to analyze economic data to draw logical conclusions about economic problems.
- Examine the impact of economic analysis on contemporary issues.

Revised June 2019

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Applied Science (AAS)

Education

Pathway to LCC BAS-TE and BAS-OLTM

This program provides students with both academic coursework and field experience necessary to become a paraeducator in the K-12 educational system. The program allows the student to experience working with students and mentor teachers. The program includes teaching methods in supporting social skills development, mathematics, science, and the arts. Emphasis is placed on educational foundations, child development, families, communities, schools and other agencies. EDUC& 101 meets the state's required 28-hour Fundamental Course of Study for para educators.

This two-year program is a pipeline to LCC's Bachelor of Applied Science in Teacher Education degree and meets the academic requirements to apply for admittance into LCC's Bachelor of Applied Science degree in Organizational Leadership and Technical Management which prepares professionals for positions in leadership, technical management and supervision.

Students in the Education program must be able to pass the required school district background clearance and have proof of required immunizations.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Education - AAS (lowercolumbia.edu/program-maps/education/AAS-Education)**

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I AND CMST& 220 Public Speaking
- **Quantitative Skills:**
10 credits – MATH& 132 Math for Elementary Educators 2
- **Humanities:**
5 credits - CMST& 210 Interpersonal Communication OR ENGL 270 Literature for Children recommended
- **Natural Sciences:**
10 credits - MATH& 131 Math for Elementary Educators 1 and Natural Science with a Lab/Choose from the Distribution List
- **Social Sciences:**
10 credits – HIST& 136 US History I OR HIST& 137 US History II AND EDUC& 115 Child development
- **Diversity:**
5 credits – EDUC& 205 Intro to Education with Field Experience: DIV is required

Program Requirements

EDUC& 101	Paraeducator Basics	3
EDUC& 130	Guiding Behavior	3
EDUC& 150	Child/Family/Community	3
EDUC 191	Field Experience I	5
EDUC& 204	Inclusive Education: Birth-21 Focus	5
EDUC 230	Social Skill Development & Trauma Informed Teaching	5
EDUC 240	Diversity in Education	5
EDUC 246	Linguistically Diverse Education	5
EDUC 291	Field Experience II	5
ECED 225	STEAM in Early Childhood	5
CS 110	Intro to Microcomputer Applications	3

SUDS 114	Suicide Assessment, Prevention, and Crisis Management	2
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Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 94 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Develop effective relationships with students, families and colleagues. (GS - Teamwork)
- Provide behavioral support using social emotional learning (SEL) strategies. (GS - Critical Thinking)
- Develop individualized instructional practices. (GS - Critical Thinking)
- Collect and analyze data obtained through assessments. (GS - Quantitative Literacy)
- Develop culturally responsive instructional strategies.

March 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Education Focus

This program provides students with academic coursework necessary to transfer into a bachelor's degree in a field of study related to education and early learning. The program sets the foundation for education methods and theory classes and includes recommendations for specific electives to meet teacher preparation program requirements at WSU-V and LCC's BAS-TE. For specific transfer requirements, please contact your transfer institution or meet with an LCC advisor.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Education - AA-DTA (lowercolumbia.edu/program-maps/education/AADTA-Education)**

Degree Requirements

- **Communications:**

15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 Public Speaking OR CMST& 230 Small Group Communication.

- **Quantitative Skills:**

5 credits – MATH& 107 or higher. MATH& 132 recommended.

- **Humanities:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed. HIST& 126 recommended.

- **Natural Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement. BIOL& 100 or BIOL& 160 and GEOL& 101 recommended.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline. EDUC& 115, HIST& 136 OR HIST& 137 and PSYC& 200 recommended.

- **Diversity:**

5 credits – From the Diversity Course List. Can be used to meet other requirements. EDUC& 205 recommended.

- **Electives:**

25 credits - See advisor for approved list of electives for your transfer institution. No more than 15 credits may be taken from the Restricted Course List. POLS& 202, MATH& 131, ASTR& 101 and ENVS 215 recommended for WSU-V. EDUC& 150 recommended for LCC BAS-TE.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- Communication: Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience and read and listen effectively.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- Numeracy: Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Revised May 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Certificate of Proficiency (COP)**Engineering Technician**

An engineering technician provides technical support to an engineer, and may work in the fields of mechanical, industrial, civil, electrical, aerospace, computer, or environmental engineering. They assist engineers with research and development, computer aided drafting, quality control or design. They may also work alongside scientists or as quality assurance inspectors. Engineering technicians need the ability to work well on a team, and have strong analytical and problem-solving skills. In this program students learn to use math and science skills to assist engineers with creating products, improving manufacturing methods and maintaining assembly systems.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Engineering Technician - COP (lowercolumbia.edu/program-maps/trades/COP-Engineering-Technician)**

Certificate Requirements

- **Communications:**
5 credits – ENGL& 101 English Composition I OR ENGL 110 Industrial Communications (recommended)
- **Quantitative Skills:**
5 credits – MATH 106 Industrial Mathematics
- **Human Relations / Social Science:**
5 credits – BUS 144 Management of Human Relations

Program Requirements

BLPT 150 <i>OR</i> BLPT 160	Machinists Blueprint Reading <i>OR</i> Blueprint Reading for Welders	5
BTEC 131	Introduction to Spreadsheets	5
CS 110	Intro to Microcomputer Apps	3
COLL 289	Employment Portfolio Seminar	1
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
ENGR& 121	Engineering Graphics I	3
ENGR& 122	Engineering Graphics II	3
ENGR& 123	Engineering Graphics III	3
MFG 105	Industrial Safety	3
MFG 130	Materials Science	5
MFG 230	Computer Integrated Manufacturing	4
MFG 288	Cooperative Work Experience	2*

*MFG 299 Independent Study may be substituted for MFG 288 with faculty program advisor permission.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 53.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply industry standard safety and hazardous material handling guidelines.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Interpret blueprints, diagrams and schematics associated with various manufacturing processes.
- Apply knowledge of properties of industrial influence and the selection of primary materials and conversion into useful products.
- Demonstrate competency in manual drafting and engineering graphics software.

Revised March 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

English Focus

Courses in composition, creative writing and literature teach essential skills for clear written communication and provide insight into past and present cultures across the world. Prepare for transfer to a bachelor's degree program leading to possible careers in professional writing, journalism, teaching and related fields.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **English - AA-DTA (lowercolumbia.edu/program-maps/arts/AADTA-English)**

Degree Requirements

- **Communications:**

15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.

- **Quantitative/Symbolic Reasoning Skills:**

5 credits – MATH& 107 or higher (excluding MATH& 131).

- **Humanities:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.

- **Natural Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List.

Recommended Electives

ENGL 108	Introduction to Literature	5
ENGL 140	Intro to Women Writers:DIV	5
ENGL 231	Creative Writing	5
ENGL 232	Creative Writing	5
ENGL 233	Creative Writing	5
ENGL 245	Contemporary Literature:DIV	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- Communication: Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- Numeracy: Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Students will be able to write an academic essay supporting a central assertion with appropriate evidence drawn from their own research.
- Students will develop an individual voice through a writing and editing process that involves the conscious consideration of critical audience responses.
- Students in literature courses will demonstrate an understanding of the fundamental characteristics of literature, such as plot and setting.
- Students will analyze literature from a variety of perspectives.
- Students of foreign language will be able to communicate in writing and in speech in the target language, and will demonstrate an awareness of the interaction between English-speaking culture and the cultures of the target language.

Revised July 2018

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Science - Transfer (AS-T)

Environmental Science

Today's environmental problems call for people who are educated in more than one discipline, highly trained in scientific and technical skills, and aware of the ecological, political, economic, and social dimensions of environmental decisions. The Associate in Science-Transfer (AS-T) degree in Environmental Science provides a foundation in basic physical, biological, and social sciences, and also addresses the human element in environmental issues. This curriculum prepares students to transfer and complete a BS or BA in an Environmental Science field for subsequent graduate study in MS, PhD, and law degree programs and careers in government agencies or the private sector.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Environmental Science - AS-T (lowercolumbia.edu/program-maps/stem/AST-Environmental-Science)**

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative / Symbolic Reasoning Skills:**
10 credits – MATH& 151* Calculus I AND MATH& 152* Calculus II.
- **Humanities / Social Sciences:**
15 credits – Selected from at least three disciplines on the Distribution List. A minimum of 5 credits in Humanities, and a minimum of 5 credits in Social Science, and an additional 5 credits in either Humanities or Social Science.
- **Diversity:**
5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title.
- **Electives:**
15 credits - These remaining credits must include program advisor approved credits.

Pre-Major Requirements (45 credits)

BIOL& 221*	Majors Ecology/Evolution: w/Lab	5
BIOL& 222*	Majors Cell/Molecular: w/Lab	5
BIOL& 223*	Majors Organismal Phys: w/Lab	5
CHEM& 161*	General Chemistry w/Lab I	5
CHEM& 162*	General Chemistry w/Lab II	5
CHEM& 163*	General Chemistry w/Lab III	5
ENVS& 100	Survey of Environmental Science	5
ENVS 215	Environmental Issues	5
MATH& 153*	Calculus III OR	5
MATH& 146	Introduction to Statistics	

Recommended Electives

BIOL 130	Biodiversity of the Pacific Northwest	5
BIOL& 260	Microbiology	5
GEOG 105	Physical Geography	5
GEOL 118	Historical Geology	5
GEOL& 208	Geology of Pacific Northwest	5
OCEA& 101	Intro to Oceanography	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

* It is recommended that sequence courses be completed at one institution.

Students completing this program should acquire the following skills and abilities:

- Familiarity with the (empirical) scientific method of problem solving.
- Perform competitively with peers at four-year institutions or professional programs.
- Express ideas and information in writing in a format that is clear and appropriate to a science-literate audience.
- Ability to apply various techniques and processes using information, data, and situation, to draw logical, rational and ethical and coherent conclusions.
- Competent with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

Revised August 2022 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* for checking specific major requirements of baccalaureate institutions in the year prior to transferring. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Certificate of Completion (COC)

Fitness Specialist

Provides the content and experience for students to acquire a firm foundation for a career as a personal trainer or group exercise instructor working within athletic clubs, starting their own business, or working with community health and fitness organizations. This certificate can be taken independently, or in conjunction with a DTA program as part of a two-year preparation to transfer to a four-year university. With the completion of this program, students will be set up to take the NCAA-accredited Personal Trainer Exam and/or Group Exercise Exam through the American Council on Exercise (ACE) to become a certified personal trainer and/or group exercise instructor.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Health and Fitness - AA-DTA (with Fitness Specialist Certificate) (lowercolumbia.edu/program-maps/health/AADTA-Health-and-Fitness)**

Program Requirements

HLTH 105	First Aid and CPR	1
PHED 285	Fitness Marketing	3
HLTH 245	Health and Exercise Behavior Change	3
HLTH 135 - OR NUTR& 101	Food and Fitness - OR Nutrition	2 5
BIOL 179	Human Biology and Exercise	5
PHED 288	Cooperative Education (Internship)	1
COLL 289	Employment Portfolio	1
PHED 295 - AND/OR PHED 296	Personal Training Instruction - AND/OR Group Fitness Instructor Course	3

Recommended Electives

HLTH 106	Health and Wellness	2
PHED 171	Prevention and Care of Athletic Injuries	3
	PHED Activity Courses	

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 19 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Apply knowledge of human anatomy, exercise physiology, kinesiology and nutrition to prescribing fitness programs specific to individual needs.
- Understand the basics of marketing and motivational approaches to reaching potential clients.
- Design and successfully lead individuals, small groups, and classes in fitness instruction while addressing all components of fitness.

Created February 2020 (Effective Spring 2020)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

General AA-DTA

Earn a degree completely online at Lower Columbia College! If you need to fit classes in to your busy home or work life, or don't live near Lower Columbia College, our ONLINE degree program may be the option for you.

Not all online courses are taught every quarter. View the online quarterly schedule to find the online/distance ed courses for the quarter. (Select current or upcoming Class Schedule. Click on "D" or "O", and then click on ONLINE to view only online classes.)

Degree Requirements

- **Communications:**

15 credits - ENGLISH 101 and ENGLISH 102. Choose one from COMMUNICATION STUDIES 220 or COMMUNICATION STUDIES 230.

- **Quantitative Skills:**

5 credits – Intermediate Algebra Proficiency required. Choose one of the following: MATH& 107 or higher with the exception of MATH& 131

- **Humanities:**

15 credits – Select from at least two disciplines from the following: No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses (indicated by *): ART& 100, ART 101*, 102*, 103*, 106*, 107*, 108*, 111*, 112*, 113*, 130, 151*, 152*, 154*, 157*, 158*, 162, 214, 224, 226, 227, 228, 241*, 242*, 243*, AMERICAN SIGN LANGUAGE 121, 122, 123, CHINESE 121, 122, 123, COMMUNICATION STUDIES 210, 220, 230, 240, 250, DANCE 100*, 105*, 110*, 151*, 152*, 153*, 251*, 252*, 253*, DRAMA 106*, 107*, 108*, DRAMA& 101, ENGLISH 106, 108, 124*, 125*, 126*, 140, 204, 205, 215, 221, 222, 224*, 225*, 226*, 231, 232, 233, 234, 245, 246, 251, 252, 254, 255, 256, 260, 270, 280, ENGL& 244, HISTORY 116, 126, HUMANITIES 104, 107, 150, 164, 210, 230, 250, 251, 255, HUM& 116, 117, 118, MUSIC 100, 106, 107, 108, 115*, 117, 119, 121*, 122*, 123*, 130*, 131*, 132*, 133*, 134*, 135*, 145, 150*, 151*, 152*, 153*, 176*, 177*, 178*, 206, 207, 208, 209, 221*, 222*, 223*, 251*, 252*, 253*, 276*, 277*, 278*, MUSC& 105, 141, 142, 143, 241, 242, 243, PHILOSOPHY 260, PHIL& 101, SPANISH 121, 122, 123, 221, 222, 223

- **Social Science:**

15 credits - Select from at least two disciplines from the following: ANTHROPOLOGY 100, 204, 206, BUSINESS 101, 201, CHEMICAL DEPENDENCY 101, CRIMINAL JUSTICE 101, 110, ECONOMICS 104, 105, ECON& 201, 202, EDUCATION 115, HISTORY 117, 127, 128, 136, 137, 205, 214, 215, 254, POLITICAL SCIENCE 101, 202, 203, 204, 220, PSYCHOLOGY 100, 150, 198, 200, 204, 214, 220, 250, 255, 298, SOCIOLOGY 101, 210, 225

- **Natural Science:**

15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses (indicated by **). At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement. PHYSICAL SCIENCES: CHEMISTRY 110**, 121**, 131**, 161**, 162**, 163**, 231**, 261**, 262**, 263**, PHYSICS 100**, 114**, 115**, 116**, 221**, 222**, 223**, PHYSICAL SCIENCE 108**, 109**, BIOLOGICAL SCIENCES: ANTHROPOLOGY 205, BIOLOGY 100**, 109**, 130**, 150**, 160**, 179**, 221**, 222**, 223**, 241**, 242**, 260**, 297, 298, NUTR& 101, EARTH SCIENCES: ASTRONOMY 101**, EARTH SCIENCE 104**, 105**, 109**, ENVIRONMENTAL SCIENCE 150, 215**, GEOGRAPHY 105**, GEOLOGY 101**, 105**, 118**, 124, 208**, OCEANOGRAPHY 101**, GENERAL SCIENCES: BUSINESS 207, COMPUTER SCIENCE 270, ENGINEERING 106, 210, MATH 107, 125, 131, 132, 141, 142, 146, 148, 151, 152, 153, 211, 215, 220, 240, 246, 254

- **Electives:**

25 credits – See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List. See Distribution List for Restricted Course List.

- **Diversity:**

5 credits – Courses that meet this requirement may also be used toward other graduation requirements. The following courses meet the Diversity requirement: AMERICAN SIGN LANGUAGE 123, ANTHROPOLOGY 100, 206, ART 100, 224, 227, 228, BUSINESS 144, BUSINESS TECHNOLOGY 165, CHINESE 121, 122, 123, COMMUNICATION STUDIES 240, 250, EDUCATION 205, ENGLISH 140, 245, 246, 280, ENVIRONMENTAL SCIENCE 150, HISTORY 126, 127, 128, 205, 215, HUMANITIES 104, 164, 210, MUSIC 117, 119, 209, SOCIOLOGY 101, 210, 225, SPANISH 121, 122, 123

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- Communication: Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- Numeracy: Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)**General AA-DTA Online**

Earn a degree completely online at Lower Columbia College! If you need to fit classes in to your busy home or work life, or don't live near Lower Columbia College, our ONLINE degree program may be the option for you.

Not all online courses are taught every quarter. View the online quarterly schedule to find the online/distance ed courses for the quarter. (Select current or upcoming Class Schedule. Click on "D" or "O", and then click on ONLINE to view only online classes.)

Degree Requirements**• Communications:**

15 credits - ENGLISH 101 and ENGLISH 102. Choose one from COMMUNICATION STUDIES 220 or COMMUNICATION STUDIES 230.

- **Quantitative Skills:**

5 credits – Intermediate Algebra Proficiency required. Choose one of the following: MATH& 107 or higher with the exception of MATH& 131

- **Humanities:**

15 credits – Select from at least two disciplines from the following: No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses (indicated by *): ART& 100, ART 224, 226 227, 228, COMMUNICATION STUDIES& 210, 220, 230, DRAMA& 101, ENGLISH 204, 270, 280, HUMANITIES 104, 210, 230, 250, 255, HUM& 117, MUSIC 117, 119, 145, 209, MUSC& 105, PHILOSOPHY& 101, SPANISH& 121, 122, 123, 221, 222, 223

- **Social Science:**

15 credits – Select from at least two disciplines from the following: No more than 10 credits in any one discipline: BUSINESS& 101, 201, CHEMICAL DEPENDENCY 101, CRIMINAL JUSTICE& 110, ECONOMICS 105, ECON& 201, 202, EDUCATION& 115, HISTORY& 128, 136, 137, 205, 254, POLITICAL SCIENCE& 202, PSYCHOLOGY& 100, 150, 200, 255

- **Natural Science:**

15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement: CHEMISTRY 110**, 121**, BIOLOGY 100**, 160**, 241**, 242**, 260**, NUTRITION& 101, EARTH SCIENCE 105**, ENVIRONMENTAL SCIENCE 150, GEOLOGY& 208**, OCEANOGRAPHY& 101**, MATH& 107, 146, 148, MATH 125, 246

- **Electives:**

See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List. See Distribution List for Restricted Course List.

- **Diversity:**

Courses that meet this requirement may also be used toward other graduation requirements. The following courses meet the Diversity requirement: ART& 100, ART 224, 227, 228, BUSINESS 144, ENGLISH 280, ENVIRONMENTAL SCIENCE 150, HISTORY 128, 205, HUMANITIES 104, 210, MUSIC 117, 119, 209, SOCIOLOGY 101, SPANISH 121, 122, 123

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- Communication: Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- Numeracy: Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Certificate of Proficiency (COP)

General Business

The General Business Certificate Program prepares students for entry-level employment in a variety of business support positions. The program generally can be completed within one academic year. Students may enter the program in the fall, winter or spring quarter.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **General Business – COP** (lowercolumbia.edu/program-maps/business/COP-General-Business)

Certificate Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I OR BUS 119 Business Communications.
- **Quantitative Skills:**
5 credits – BUS 104 Business Math Applications.
- **Human Relations / Social Science**
5 credits – BUS 144 Management of Human Relations.

Program Requirements

ACCT 101	Intro to Accounting Concepts	5
BTEC 146	PowerPoint Fundamentals	1
BTEC 149	Internet Fundamentals	1
BUS& 101	Introduction to Business	5
BUS 150	Customer Service/ Management	5
BUS 165	Salesmanship	5
CS 110	Intro to Microcomputer Apps	3
BTEC 131 (was CS 121)	Intro to Spreadsheets	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 45

Students completing this program should acquire the following skills and abilities:

- Articulate the relationship between human behavior, customer service, and business outcomes.
- Perform basic bookkeeping and accounting tasks using spreadsheets and industry standard accounting software.
- Compose written business documents, including email and reports, using industry standard software.
- Identify the relationships between business functions, such as accounting, marketing, purchasing, human resources, and operations management.

- Communicate professionally in writing and speaking as appropriate to a business work environment (GS Communication).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking).
- Apply mathematical information to make decisions and solve problems in business (GS Numeracy/Quantitative Literacy).
- Interact effectively with individuals and groups (GS Interpersonal Relations).

Revised February 2021 (Effective Summer 2021)

Notes:

Consult an advisor if you have any questions.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Health & Fitness Focus

Prepare for careers in health and fitness. After earning a bachelor's degree, or related certificate, graduates can work in careers such as; personal training, group fitness instruction, health coaching, K-12 physical education or health teaching, sports management, athletic training, coaching, exercise science, and recreation.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Health and Fitness - AA-DTA (with Fitness Specialist Certificate) (lowercolumbia.edu/program-maps/health/AADTA-Health-and-Fitness)**

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 Public Speaking OR CMST& 230 Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits of MATH& 107 or higher (with the exception of MATH& 131).
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the

Quantitative Skills requirement. It is strongly recommended that NUTR& 101 and BIOL 179 are taken as 10 of the 15 credits for Natural Science. Specific chemistry classes are recommended for students going into nutrition or exercise science. Anatomy and Physiology is recommended for athletic training and exercise science.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. HIST 214, Sports in American History, is recommended.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List. No more than 3 PE activity courses may be taken as electives. PE activity courses are marked with a *.

Recommended Electives

COLL 289	Employment Portfolio Seminar	1
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
HLTH 106	Health and Wellness	2
HLTH 245	Health and Exercise Behavior Change	3
*PHED 128/228	Weight Training	2
*PHED 152/252	Personalized Fitness	2
PHED 171	Prevention & Care of Athletic Injuries	3
PHED 285	Fitness Marketing	3
PHED 288	Cooperative Education	1
PHED 295	Personal Training Instruction	3
PHED 296	Group Exercise Instruction	3

Students who complete certain elective credits will also earn their Fitness Specialist Certificate through LCC. See advisor for details.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0.

****** No more than 10 credits from any one discipline will be applied to the requirements within a distribution area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- **Communication:** Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- **Critical thinking:** Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- **Interpersonal relations:** Interact effectively with individuals and/or within groups.
- **Numeracy:** Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- **Diversity:** Examine the causes and expressions of difference, power, and discrimination.
- **Humanities:** Explore how people process, document, and express their social and cultural experience.
- **Social Science:** Examine society, behavior, and relationships among individuals within a society.
- **Natural Science:** Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Students will have a basic understanding of exercise physiology and how various exercises and training routines contribute to strength, endurance, and overall physical health.
- Students will demonstrate proficiency in developing health and fitness goals as well as health and fitness programs catering to individual needs both for themselves and others.
- Students will understand the basics of nutrition and the impact of nutrition on overall health.

- Students will understand the beneficial effects of health and fitness in their personal lives as well as all other aspects of life.

Revised February 2020 (Effective Spring 2020)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

History Focus

The study of history provides an opportunity to explain the development of human societies over time through examination of the records (cultural, economic, political and scientific) of past generations. Transfer studies leading to a bachelor's degree prepares you for government service, legal fields, education and other research careers.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **History - AA-DTA (lowercolumbia.edu/program-maps/social-science/AADTA-History)**

Degree Requirements

• Communications:

15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.

• Quantitative / Symbolic Reasoning Skills:

5 credits - MATH& 107 or higher (excluding MATH& 131).

• Humanities:

15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed. 5 credits of a foreign language recommended.

• Natural Sciences:

15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses

used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline. ECON, HIST, POLS and SOC are recommended courses.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: HIST& 215 – Women in U.S. History:DIV.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

HIST& 126	World Civilizations I:DIV	5
HIST& 127	World Civilizations II:DIV	5
HIST& 128	World Civilizations III:DIV	5
HIST& 136	U.S. History 1	5
HIST& 137	U.S. History 2	5
HIST& 215	Women in U.S. History:DIV	5
HIST 254	History of WA & Pacific NW	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- **Communication:** Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- **Critical thinking:** Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- **Interpersonal relations:** Interact effectively with individuals and/or within groups.
- **Numeracy:** Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- **Diversity:** Examine the causes and expressions of difference, power, and discrimination.
- **Humanities:** Explore how people process, document, and express their social and cultural experience.
- **Social Science:** Examine society, behavior, and relationships among individuals within a society.
- **Natural Science:** Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Comprehend and chronologically organize important geographical features, ideas, developments, events, people and institutions.
- Distinguish between and analyze primary and secondary sources, and historical facts and interpretations.
- Identify and describe cause and effect relationships for major historical events, and describe and explain changes over time.
- Empathetically understand differing perspectives of peoples of the past, and be able to compare and contrast among different sources, different ideas, and different explanations.
- Write coherently and accurately about the past.
- Discuss how the past continues to shape students and their contemporary world.

Revised June 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Applied Science (AAS)**Information Technology Systems**

Qualify for entry-level employment as a computer support specialist, utilizing skills in networking, programming, and applications support by successfully completing program requirements and select areas of emphasis. The AAS - Information Technology Systems program meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science degree in Organizational Leadership and Technical Management which prepares industry professionals for positions in leadership, management and supervision.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Information Technology Systems - AAS (Plan 1)** (lowercolumbia.edu/program-maps/info-tech/AAS-Information-Technology-Systems-Plan-1)
- **Information Technology Systems - AAS (Plan 2)** (lowercolumbia.edu/program-maps/info-tech/AAS-Information-Technology-Systems-Plan-2)

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I AND ENGL& 235 Technical Writing
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society OR higher except MATH& 131
- **Human Relations/ Social Science/ Diversity:**
5 credits – BUS 144 Management of Human Relations: DIV OR SOC& 101 Intro to Sociology: DIV
- **Natural Sciences:**
5 credits - CS 170 Fundamentals of Computer Programming
- **Electives:**
2-10 credits from BTEC, BUS, CS, IT or choose from the Distribution List. If applying to the BAS-OLTM degree, students must take 5 credits of natural science with lab. See advisor for recommendations that meet individual needs.

Program Requirements

IT 100	IT Fundamentals	5
IT 102	Introduction to Web Design	5
BTEC 131	Introduction to Spreadsheets	5
BTEC 135	Advanced Data Analysis	5
BUS 150	Customer Service/ Management	5

IT 140	Configuring Windows Operating System	4
IT 141	PC Technician I	4
IT 142	PC Technician II	4
IT 211	Introduction to Networking	5
IT 212	Installing and Configuring Windows Server	5
IT 220	Intro to Cloud Computing	3
IT 230	Database Development	5
IT 235	Introduction to Big Data	5
IT 249	Linux Operating Systems	5
IT 260	Info Tech Security	5
CS 275	Object-Oriented Programming	5
BUS 294	Career Success	2
IT 288	Cooperative Work Experience	1

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 105-113 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Demonstrate core IT competency in client computing and user support.
- Demonstrate core IT competency in database and information management.
- Demonstrate core IT competency in networking and convergence.
- Demonstrate core IT competency in programming and application development.
- Apply mathematical information to perform tasks in Information Technology (GS).
- Research and assess new ideas and information in Information Technology (GS).
- Identify the importance of lifelong learning (GS).
- Demonstrate core IT competency in servers, storage and virtualization.
- Function effectively as a member of a diverse team to accomplish common goals (GS).
- Read and interpret technical information.
- Communicate orally with, and write clearly for a wide range of audiences (GS).
- Exhibit professional, legal, and ethical behavior.

- Demonstrate business awareness and workplace effectiveness.

Revised May 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. *Depending on area of emphasis, other courses may be substituted for ones listed in suggested schedule above.*

Associate in Applied Science (AAS)

Machine Trades

Prepare for a job as a machinist, millwright, and tool and die maker, or another occupation related to manufacturing through LCC's Machine Trades program. Graduates may work as advanced apprentice machinists, machine operators, or programmers.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Machine Trades - AAS (lowercolumbia.edu/program-maps/trades/AAS-Machine-Trades)**

Degree Requirements

- **Communications:**
5 credits - ENGL 110 Industrial Communications
- **Quantitative / Symbolic Reasoning Skills:**
5 credits – MATH 106 Industrial Mathematics
- **Human Relations / Social Science:**
5 credits – BUS 144 Management of Human Relations is recommended.
- **Humanities/ Natural Sciences:**
5 credits – DHET 240 Fluid Power/Electrical Theory & Design OR TECH 100 Advanced Principles of Technology OR MFG 130 Materials Science OR choose from the Distribution List.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title.

Program Requirements

BLPT 150	Machinists Blueprint Reading	5
HLTH 105	First-Aid, CPR and Bloodborne Pathogens	1
MASP 111	Machine Shop I	10
MASP 112	Machine Shop II	10
MASP 113	Machine Shop III	10
MASP 204	CNC Machining Center Fundamentals	3
MASP 205	CNC Turning Center Fundamentals	3
MASP 221	CNC Milling	10
MASP 222	CNC Turning	10
MASP 223	Advanced CNC Processes	10
MFG 105	Industrial Safety	3
MFG 115	Manufacturing Processes	5
MFG 230	Computer Integrated Manufacturing	4
COLL 289	Employment Portfolio Seminar	1
MASP 288	Cooperative Work Experience	2

3 credits of WELD 105 may be substituted for COLL 289/MASP 288 with program advisor permission.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 107 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).

- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Apply industry standard safety and hazardous material handling guidelines.
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Demonstrate competencies required for entry level machinist.
- Interpret industrial blueprints to accurately inspect machined parts.
- Demonstrate competency in documenting and communicating work performed using trade specific language.
- Demonstrate competency in set up and operation of manual machine tools to manufacture parts per specification.
- Program computer numerical control (CNC) mill and CNC lathe to manufacture parts per specification.
- Apply CAD/CAM software to design and manufacture parts per specification.

Revised December 2021 (Effective Summer 2022)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science - Transfer (AAS-T)

Machine Trades

for LCC BAS-OLTM

Prepare for a job as a machinist, millwright, and tool and die maker, or another occupation related to manufacturing through LCC's Machine Trades program. Graduates may work as advanced apprentice machinists, machine operators, or programmers. This program also meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science degree in Organizational Leadership and Technical Management which prepares industry professionals for positions in leadership, management and supervision.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Machine Trades - AAS-T (BAS-OLTM Option) (lowercolumbia.edu/program-maps/trades/AAS-Machine-Trades-to-BAS-OLTM)**

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher except for MATH& 131
- **Natural Sciences:**
5 credits – Natural Science with lab from the Distribution List
- **Diversity / Human Relations:**
5 credits – BUS 144 Management of Human Relations: DIV

Program Requirements

BLPT 150	Machinists Blueprint Reading	5
CS 110	Introduction to Microcomputer Applications	3
HLTH 105	First-Aid, CPR and Bloodborne Pathogens	1
MASP 111	Machine Shop I	10
MASP 112	Machine Shop II	10
MASP 113	Machine Shop III	10
MASP 204	CNC Machining Center Fundamentals	3
MASP 205	CNC Turning Center Fundamentals	3
MASP 221	CNC Milling	10
MASP 222	CNC Turning	10
MASP 223	Advanced CNC Processes	10
MFG 105	Industrial Safety	3
MFG 115	Manufacturing Processes	5
MFG 230	Computer Integrated Manufacturing	4
COLL 289	Employment Portfolio Seminar	1
MASP 288	Cooperative Work Experience	2

3 credits of WELD 105 may be substituted for COLL 289/MASP 288 with program advisor permission.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 110 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Apply industry standard safety and hazardous material handling guidelines.
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Demonstrate competencies required for entry level machinist.
- Interpret industrial blueprints to accurately inspect machined parts.
- Demonstrate competency in documenting and communicating work performed using trade specific language.
- Demonstrate competency in set up and operation of manual machine tools to manufacture parts per specification.
- Program computer numerical control (CNC) mill and CNC lathe to manufacture parts per specification.
- Apply CAD/CAM software to design and manufacture parts per specification.

Revised May 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Certificate of Proficiency (COP)

Machinist

The Machine Trades certificate program is another route to employment as a machinist, millwright, tool and die maker, or other occupation related to manufacturing. Graduates may work as advanced apprentice machinists, machine operators, or programmers.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Machinist - COP (lowercolumbia.edu/program-maps/trades/COP-Machinist)**

Certificate Requirements

- **Communications:**
5 credits - ENGL 110 Industrial Communications is recommended.
- **Quantitative Skills:**
5 credits – MATH 106 Industrial Mathematics.
- **Human Relations / Social Sciences:**
5 credits – BUS 144 Management of Human Relations is recommended.

Program Requirements

BLPT 150	Machinists Blueprint Reading	5
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MASP 112	Machine Shop II	10
MASP 113	Machine Shop III	10
MFG 105	Industrial Safety	3
MFG 115	Manufacturing Processes	5
WELD 143	SMAW - Stick Welding with E6010	6
MASP 107 AND/OR MASP 111	Machining for Related Occupations <i>AND/OR</i> Machine Shop I (2-10 cr variable) for a combined total of 10 credits	10

iversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 65.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Apply industry standard safety and hazardous material handling guidelines.
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Demonstrate competencies required for entry level machinist.
- Interpret industrial blueprints for inspection of machined parts.
- Demonstrate competency in set up and operation of manual machine tools to manufacture parts per specification.
- Demonstrate competency in documenting and communicating work performed using trade specific language.

Revised December 2021 (Effective Summer 2022)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Math Education - DTA/MRP

Math Education

Mathematics is the language of science and a powerful mechanism for describing the world around us. A mathematics degree at Lower Columbia College prepares students for bachelor's programs in areas such as mathematics, statistics, or math education.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Math Education - DTA/MRP (lowercolumbia.edu/program-maps/education/DTAMRP-Math-Education)**

Degree Requirements

- **Communications:**

10 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II.

- **Quantitative / Symbolic Reasoning Skills:**

5 credits – MATH& 151* Calculus I (must be proficient in MATH 098/099 Pre-College Math III).

- **Humanities:**

15-20 credits – CMST& 220 (was SPCH 110) Public Speaking AND an additional 10 credits from the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits of performance/skills courses are allowed.

- **Natural Sciences:**

15-20 credits – MATH& 152* Calculus II AND 10 credits of science from Physics, Chemistry, Geology, or Biology from the Distribution List. Shall include at least one lab course.

- **Social Sciences:**

15-20 credits – PSYC& 100 General Psychology AND an additional 10 credits from the Distribution List. No more than 10 credits allowed from any one discipline.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.

Other Requirements

EDUC& 205	Intro to Education with Field Exp.:DIV	5
MATH& 153*	Calculus III	5
MATH& 254*	Calculus IV (was MATH 154)	5
MATH 220	Linear Algebra	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

If additional credits are required, the remainder shall be fully transferable as defined by the receiving institution.

* It is recommended that sequence courses be completed at one institution.

Students completing this program should acquire the following skills and abilities:

- Prepared for transfer to a mathematics program at a 4-year college or university.
- Communicate mathematical ideas and concepts using appropriate symbols and terminology.
- Apply mathematical principles to find solutions to real world problems.
- Construct a reasonable argument to defend the overall importance of mathematics.
- Promote evidence-based thinking and decision making.

Revised April 2017 (Effective Fall 2017)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

AS-T Other Engineer/MRP

Mechanical/ Civil/ Aeronautical/ Industrial/ Materials Science Engineering

Complete basic background studies for transfer to a bachelor's degree program in engineering disciplines. Careers may be found in research, development, design, operations management, teaching, sales and consulting.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Mechanical, Civil, Aeronautical, Industrial, Materials Science Engineering - AS-T (2 year) (lowercolumbia.edu/program-maps/stem/AST-Mechanical-Civil-Aeronautical-Industrial-Materials-Science-Engineering-2-year)**
- **Mechanical, Civil, Aeronautical, Industrial, and Materials Science Engineering AS-T (3 year) (lowercolumbia.edu/program-maps/stem/AST-Mechanical-Civil-Aeronautical-Industrial-Materials-Science-Engineering-3-year)**

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Comp I.
- **Quantitative / Symbolic Reasoning Skills:**
25 credits – MATH& 151* Calculus I, MATH& 152* Calculus II, MATH& 153* Calculus III, MATH 220 Linear Algebra AND MATH 240 Differential Equations.
- **Humanities / Social Sciences:**
15 credits – minimum 5 credits in Humanities, minimum 5 credits in Social Science, plus an additional 5 credits in either Humanities or Social Science from the Distribution List. Economics recommended.
- **Diversity:**
5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.
- **Electives:**
5 credits minimum – select electives appropriate for your intended major and intended baccalaureate institution.

Pre-Major Requirements (40 credits)

CHEM& 161*	General Chemistry w/Lab I	5
CHEM& 162*	General Chemistry w/Lab II	5
ENGR& 214	Statics	5
ENGR& 215	Dynamics	5
ENGR& 225	Mechanics of Materials	5
PHYS& 221*	Engr Physics I w/Lab	5
PHYS& 222*	Engr Physics II w/Lab	5
PHYS& 223*	Engr Physics III w/Lab	5

Electives

CS 170	Computer Programming	5
CHEM& 163*	General Chemistry w/Lab III	5
ENGL& 235	Technical Writing	5
ENGR& 106	Engineering Problems	5
ENGR& 121*	Engineering Graphics I	3
ENGR& 122*	Engineering Graphics II	3

ENGR& 123*	Engineering Graphics III	3
ENGR& 204	Electrical Circuits	6
ENGR& 224	Thermodynamics	5
MATH& 254*	Calculus IV	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

*It is recommended that sequence courses be completed at one institution.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Demonstrate the ability to use foundational knowledge in mathematics, physics, chemistry, and biology.
- Design and conduct experiments.
- Make measurements, analyze data, and interpret results.
- Problem solving, team, self-assessment and lifelong learning skills.
- Communicate effectively.

Revised December 2020 (Effective Fall 2021)

Notes:

For this degree, specific grade requirements vary from course to course and among transfer institutions. The student will need to check with transfer advisors. Some baccalaureate institutions require physics with calculus. It is your responsibility to check your baccalaureate institution's specific major requirements the year prior to transferring.

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Certificate of Proficiency (COP)

Medical Assisting

Students develop knowledge and skills necessary for employment in clinical and administrative-support areas of medical clinics. See Learning Outcomes for details.

The Lower Columbia College Medical Assisting Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). This assures the highest standards in a medical assisting curriculum and qualifies the successful graduate to sit for the national Certified Medical Assistant (CMA) exam administered by the American Association of Medical Assistants (AAMA).

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Medical Assisting - COP (lowercolumbia.edu/program-maps/health/COP-Medical-Assisting)**

Certificate Requirements

- **Communications:**
5 credits - **ENGL& 101 English Composition I.
- **Quantitative Skills:**
5 credits – MATH 105 Math for Health Sciences OR Any College Level Math.
- **Human Relations/ Social Science:**
5 credits – PSYC& 100 General Psychology (counts for Human Relations and Social Science) OR BUS 144 Management of Human Relations:DIV (counts for Human Relations, Social Science, and Diversity).
- **Strongly Advised:**
MEDA 205 Certification Review for Medical Assisting, 2 cr.

Program Requirements

**AH 114 OR **PSYC& 200	Healthcare Communication Skills OR Lifespan Psychology	2 OR 5
CS 110 ORBTEC 145	Intro to Microcomputer Applications OR Introduction to MS Word	3 OR 5
BTEC 171	Medical Reception Procedures	3

BTEC 172	Medical Office Procedure	3
BTEC 173	Computers in the Medical Office	3
MEDA 101 OR BTEC 181	Medical Vocabulary I OR Medical Terminology I	3
MEDA 102 OR BTEC 182	Medical Vocabulary II OR Medical Terminology II	3
MEDA 120 OR BIOL& 241 AND BIOL& 242	Survey of Human A & P OR Human A&P 1 AND 2	5 OR 10
MEDA 122 OR BTEC 164 AND MEDA 298	Law & Ethics for the Medical Office OR Medical Office Law & Ethics AND Special Topics in Medical Assisting	3 OR 2 AND 1
MEDA 145	Medical Laboratory Techniques	6
MEDA 161*	Exam Room Procedures I	4
MEDA 162*	Exam Room Procedures II	4
MEDA 165	Medications in Medical Assisting & Diseases	5
MEDA 190	Medical Assisting to Preceptorship	6
MEDA 195	Medical Assisting Seminar	1

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 70-80. For any course to count toward this certificate, a grade of C or better is required.

****NOTE:** AH 114 OR PSYC& 200, and ENGL& 101, all with a grade of C or better must be completed before MEDA 161.

*MEDA 161 or MEDA 162 fulfill the Health requirement.

Students completing this program should acquire the following skills and abilities:

- Demonstrate critical thinking by applying objective, valid methods of inquiry and problem-solving to draw rational, ethical and coherent conclusions in medical assisting practice.
- Process and utilize quantitative data in professional medical assisting practice.
- Communicate effectively in professional medical assisting practice.
- Incorporate professional interpersonal skills and caring behaviors in medical assisting practice.
- Demonstrate competencies in the following domains, according to CAAHEP accreditation standards, for employment as a medical assistant in clinical and administrative-support areas of ambulatory health-care settings:
 - cognitive (knowledge)
 - psychomotor (performance)
 - affective (attitude and behavior)
- Be prepared for the national certification exam sponsored by the American Association of Medical Assistants (AAMA).
- Be prepared for state credentialing as a "Medical Assistant-Certified" according to educational requirements in the law relating to Medical Assistants, Engrossed Substitute House Bill 1515.

Revised December 2021 (Effective Summer 2022)

Notes:

*MEDA Program Director permission required to enroll.

To comply with health care agency requirements, students must provide documentation of the following before MEDA 190: Current first aid card, current American Heart Association, current Healthcare Provider CPR, negative urine drug screen (must be within 30 days of beginning MEDA 190), all required immunizations or titers, current TB test or chest Xray, a criminal and fraud background check.

This advice for program planning is based on the information available at the time of preparation. It is always advisable to check with your LCC advisor and with the LCC catalog for LCC graduation requirements.

Associate in Applied Science (AAS)

Medical Assisting

Students develop knowledge and skills necessary for employment in clinical and administrative-support areas of medical clinics. See Learning Outcomes for details.

The Lower Columbia College Medical Assisting Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). This assures the highest standards in a medical assisting curriculum and qualifies the successful graduate to sit for the national Certified Medical Assistant (CMA) exam administered by the American Association of Medical Assistants (AAMA).

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Medical Assisting - AAS (lowercolumbia.edu/program-maps/health/AAS-Medical-Assisting)**

Degree Requirements

- **Communications:**
10 credits - **ENGL& 101 English Composition I AND ENGL& 102 Composition II OR CMST& 220 Public Speaking.
- **Quantitative Skills:**
5 credits – MATH 105 Math for Health Sciences OR Any College Level Math.
- **Human Relations / Social Science:**
5 credits – PSYC& 100 General Psychology (counts for Human Relations and Social Science) OR BUS 144 Management of Human Relations:DIV (counts for Human Relations, Social Science, and Diversity).
- **Natural Science/ Humanities:**
5 credits from the Distribution List.
- **Diversity:**
5 credits - From the Diversity Course List. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: ART& 100 Art Appreciation:DIV.
- **Strongly Advised:**
MEDA 205 Certification Review for Medical Assisting, 2 cr.
- **Electives:**
5-6 credits – choose courses numbered 100 or above from the Distribution List OR HLTH OR PHED (up to 5 cr) OR AH 166.

Program Requirements

**AH 114	Healthcare Communication Skills	2
OR		OR
**PSYC& 200	OR Lifespan Psychology	5
CS 110	Intro to Microcomputer Apps	3
OR	OR	OR

BTEC 145	Introduction to MS Word	5	
BTEC 171	Medical Reception Procedures		3
BTEC 172	Medical Office Procedure		3
BTEC 173	Computers in the Medical Office		3
MEDA 101 OR BTEC 181	Medical Vocabulary I OR Medical Terminology I		3
MEDA 102 OR BTEC 182	Medical Vocabulary II OR Medical Terminology II		3
MEDA 120 OR BIOL& 241 AND BIOL& 242	Survey of Human A & P OR Human A & P 1 AND 2	5 OR 10	
MEDA 122 OR BTEC 164 AND MEDA 298	Law & Ethics for the Medical Office OR Medical Office Law & Ethics AND Special Topics in Medical Assisting	3 OR 2 AND 1	
MEDA 145	Medical Laboratory Techniques		6
MEDA 161*	Exam Room Procedures I		4
MEDA 162*	Exam Room Procedures II		4
MEDA 165	Medications in Medical Assisting & Diseases		5
MEDA 190	Medical Assisting to Preceptorship		6
MEDA 195	Medical Assisting Seminar		1

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total minimum credits required to earn this degree: 90. For any course to count toward this degree, a grade of C or better is required.

****NOTE:** AH 114 OR PSYC& 200, and ENGL& 101, all with a grade of C or better must be completed before MEDA 161.

*MEDA 161 or MEDA 162 fulfill the Health requirement.

Students completing this program should acquire the following skills and abilities:

- Demonstrate critical thinking by applying objective, valid methods of inquiry and problem-solving to draw rational, ethical and coherent conclusions in medical assisting practice.
- Process and utilize quantitative data in professional medical assisting practice.
- Communicate effectively in professional medical assisting practice.
- Incorporate professional interpersonal skills and caring behaviors in medical assisting practice.
- Demonstrate competencies in the following domains, according to CAAHEP accreditation standards, for employment as a medical assistant in clinical and administrative-support areas of ambulatory health-care settings:
 - cognitive (knowledge)
 - psychomotor (performance)
 - affective (attitude and behavior)
- Be prepared for the national certification exam sponsored by the American Association of Medical Assistants (AAMA).
- Be prepared for state credentialing as a "Medical Assistant-Certified" according to educational requirements in the law relating to Medical Assistants, Engrossed Substitute House Bill 1515.

Revised October 2022 (Effective Summer 2023)

Notes:

*MEDA Program Director permission required to enroll.

To comply with health care agency requirements, students must provide documentation of the following before MEDA 190: Current first aid card, current healthcare provider CPR, negative urine drug screen (must be within 30 days of beginning MEDA 190), all required immunizations or titers, current TB test or chest Xray, a criminal and fraud background check.

This advice for program planning is based on the information available at the time of preparation. It is always advisable to check with your LCC advisor and with the LCC catalog for LCC graduation requirements.

Associate in Applied Science - Transfer (AAS-T)

Medical Assisting

for LCC BAS-OLTM

Students develop knowledge and skills necessary for employment in clinical and administrative-support areas of medical clinics. See Learning Outcomes for details.

The Lower Columbia College Medical Assisting Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). This assures the highest standards in a medical assisting curriculum and qualifies the successful graduate to sit for the national Certified Medical Assistant (CMA) exam administered by the American Association of Medical Assistants (AAMA). This program meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science degree in Organizational Leadership and Technical Management which prepares professionals for positions in leadership, technical management and supervision.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Medical Assisting - AAS-T (BAS-OLTM option) (lowercolumbia.edu/program-maps/health/AAS-T-Medical-Assisting-BAS-OLTM-option)**

Degree Requirements

- **Communications:**
10 credits - **ENGL& 101 English Composition I AND ENGL& 102 Composition II OR CMST& 220 Public Speaking.
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher with the exception of MATH& 131.
- **Human Relations / Social Science:**
5 credits – PSYC& 100 General Psychology (counts for Human Relations and Social Science) OR BUS 144 Management of Human Relations:DIV (counts for Human Relations, Social Science, and Diversity).
- **Natural Science:**
5 credits Natural Science with lab course from the Distribution List.
- **Diversity:**
5 credits - From the Diversity Course List. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: ART& 100 Art Appreciation:DIV.
- **Strongly Advised:**
MEDA 205 Certification Review for Medical Assisting, 2 cr.
- **Electives:**
5-6 credits – choose courses numbered 100 or above from the Distribution List OR HLTH OR PHED (up to 5 cr) OR AH 166.

Program Requirements

**AH 114 OR **PSYC& 200	Healthcare Communication Skills OR Lifespan Psychology	2 OR 5
CS 110 OR BTEC 145	Intro to Microcomputer Apps OR Introduction to MS Word	3 OR 5
BTEC 171	Medical Reception Procedures	3
BTEC 172	Medical Office Procedures	3
BTEC 173	Computers in the Medical Office	3
MEDA 101 OR BTEC 181	Medical Vocabulary I OR Medical Terminology I	3
MEDA 102 OR BTEC 182	Medical Vocabulary II OR Medical Terminology II	3
MEDA 120 OR BIOL& 241 AND BIOL& 242	Survey of Human A & P OR Human A & P 1 AND 2	5 OR 10
MEDA 122 OR BTEC 164 AND MEDA 298	Law & Ethics for the Medical Office OR Medical Office Law & Ethics AND Special Topics in Medical Assisting	3 OR 2 AND 1
MEDA 145	Medical Laboratory Techniques	6
MEDA 161*	Exam Room Procedures I	4
MEDA 162*	Exam Room Procedures II	4

MEDA 165	Medications in Medical Assisting & Diseases	5
MEDA 190	Medical Assisting to Preceptorship	6
MEDA 195	Medical Assisting Seminar	1

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total minimum credits required to earn this degree: 90. For any course to count toward this degree, a grade of C or better is required.

****NOTE:** AH 114 OR PSYC& 200, and ENGL& 101, all with a grade of C or better must be completed before MEDA 161.

*MEDA 161 or MEDA 162 fulfill the Health requirement.

Students completing this program should acquire the following skills and abilities:

- Demonstrate critical thinking by applying objective, valid methods of inquiry and problem-solving to draw rational, ethical and coherent conclusions in medical assisting practice.
- Process and utilize quantitative data in professional medical assisting practice.
- Communicate effectively in professional medical assisting practice.
- Incorporate professional interpersonal skills and caring behaviors in medical assisting practice.
- Demonstrate competencies in the following domains, according to CAAHEP accreditation standards, for employment as a medical assistant in clinical and administrative-support areas of ambulatory health-care settings:
 - cognitive (knowledge)
 - psychomotor (performance)
 - affective (attitude and behavior)
- Be prepared for the national certification exam sponsored by the American Association of Medical Assistants (AAMA).
- Be prepared for state credentialing as a "Medical Assistant-Certified" according to educational requirements in the law relating to Medical Assistants, Engrossed Substitute House Bill 1515.

February 2023 (Effective Summer 2023)

Notes:

*MEDA Program Director permission required to enroll.

To comply with health care agency requirements, students must provide documentation of the following before MEDA 190: Current first aid card, current healthcare provider CPR,

negative urine drug screen (must be within 30 days of beginning MEDA 190), all required immunizations or titers, current TB test or chest Xray, a criminal and fraud background check.

This advice for program planning is based on the information available at the time of preparation. It is always advisable to check with your LCC advisor and with the LCC catalog for LCC graduation requirements.

Certificate of Proficiency (COP)

Medical Billing & Coding Specialist

Administrative support professionals are responsible for performing and coordinating a wide range of activities, managing information flow, providing excellent customer service, and operating and maintaining a wide variety of office equipment. Organizations in a wide variety of industries, including the health care field and medical offices, rely on skilled administrative support staff to keep operations running efficiently and effectively.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Medical Billing and Coding Specialist - COP** (lowercolumbia.edu/program-maps/business/COP-Medical-Billing-and-Coding-Specialist)

Certificate Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I OR BUS 119 Business Communications.
- **Quantitative Skills:**
5 credits – BUS 104 Business Math Applications
- **Human Relations / Social Science:**
5 credits – BUS 144 Management of Human Relations:DIV OR BUS 150 Customer Service/Management

Program Requirements

BUS 100	Foundations of Business Success	3
BTEC 104	Intro to Business Technology	5
BTEC 131	Intro to Spreadsheets	5
BTEC 135	Advanced Data Analysis	5
BTEC 161	Intro to ICD-10 Coding, Part I	5

BTEC 162	Intro to ICD-10 Coding, Part II	5
BTEC 163	CPT Coding	5
BTEC 164	Medical Office Law & Ethics	2
BTEC 165	Cultural Awareness for Care Professionals:DIV	5
BTEC 181	Medical Terminology I OR	3
MEDA 101	Medical Vocabulary I	
BTEC 182	Medical Terminology II OR	3
MEDA 102	Medical Vocabulary II	
MEDA 120	Survey of Human A & P	5
BUS 294	Career Success	2

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

To earn a Medical Billing & Coding Specialist Certificate of Proficiency, you must complete a minimum of 68 credits and pass each course listed in program requirements with a C or above

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business-or business-related work environment (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking)
- Apply mathematical information to perform tasks in business and information technology to work environments (GS Numeracy/Quant. Literacy)
- Interact effectively with individuals and groups (GS Interpersonal Relations)
- Demonstrate proficiency in the use of business equipment, computer software, and technology for medical offices
- Assign ICD codes to diagnoses and procedures
- Assign CPT codes for medical services and procedures
- Create and manage business documents, spreadsheets, and databases
- Demonstrate competency in records management
- Demonstrate proficiency in organizational skills and assigning priority
- Demonstrate ethical decision making

Revised December 2021 (Effective Summer 2022)

Notes:

Consult an advisor if you have any questions.

Associate in Applied Science (AAS)

Medical Office Administration

Medical Administrative professionals are responsible for performing and coordinating a wide range of activities, managing information flow, providing excellent customer service, and operating advanced office technology. Organizations in a wide variety of industries, including the healthcare field, rely on skilled administrative staff to keep operations running efficiently and effectively.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Medical Office Administration - AAS (lowercolumbia.edu/program-maps/business/AAS-Medical-Office-Administration)**

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I OR BUS 119 Business Communications.
- **Quantitative Skills:**
5 credits – BUS 104 Business Math Applications OR MATH& 107 Math in Society.
- **Human Relations / Social Science:**
5 credits – recommended: BUS 144 Management of Human Relations:DIV.
- **Diversity:**
5 credits - BTEC 165 Cultural Awareness for Care Professionals.
- **Natural Sciences / Humanities:**
5 credits – recommended: NUTR& 101 Nutrition.
- **Electives:**
3-6 credits - ACCT, BUS, BTEC, CS, IT - BTEC 288 Cooperative Education recommended.

Core Program Requirements

ACCT 101 OR ACCT 135	Intro to Accounting Concepts OR Accounting for Non-Accountants	5
AH 166	Mental Health First Aid for Adults	1

BUS 100	Foundations of Business Success	3
BTEC 104 OR CS 110 AND BTEC 146	Intro to Business Technology OR Intro to Microcomputer Applications AND Powerpoint Fundamentals	5 OR 3 AND 2
BTEC 111	Word Processing I	5
BTEC 112	Word Processing II	5
BTEC 120	Specialized Applications for Business	3
BTEC 131	Introduction to Spreadsheets	5
BTEC 135	Advanced Data Analysis	5
BTEC 148	Introduction to Outlook	2
BTEC 164	Medical Office Law & Ethics	2
BTEC 165	Cultural Awareness for Care Professionals: DIV	5
BTEC 171	Medical Reception Procedures	3
BTEC 172	Medical Office Procedures	3
BTEC 173	Computers in the Medical Office	3
BTEC 181 OR MEDA 101	Medical Terminology I OR Medical Vocabulary I	3
BTEC 182 OR MEDA 102	Medical Terminology II OR Medical Vocabulary II	3
BTEC 230	Electronic Calculators II	2
BUS 294	Career Success	2
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
IT 111	Introduction to Windows	4
<i>In addition to the core program requirements, students must select one area of expertise from the following areas of study:</i>		

Medical Billing & Coding:		
BTEC 160	Medical Scribe	5
BTEC 161	Intro to ICD-10 Coding, Part I (F)	5
BTEC 162	Intro to ICD-10 Coding, Part II (W)	5
BTEC 163	CPT Coding (Sp)	5
MEDA 120	Survey of Human Anatomy & Physiology	5
Community, Health, & Wellness Advocate:		
BTEC 170	Community Health Advocacy	5
BTEC 176	Social Determinants of Health	5
BTEC 177	Trauma Informed Care	5
BTEC 178	Building Sustainable Community Capacity	5
EDUC& 115	Child Development	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 118-121 and pass each course listed in the program requirements with a C or better.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business-or business-related work environment (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking)
- Apply mathematical information to perform tasks in business and information technology to work environments (GS Numeracy/Quant. Literacy)
- Interact effectively with individuals and groups (GS Interpersonal Relations)
- Demonstrate proficiency in the use of business equipment, computer software, and technology for medical offices
- Create and manage business documents, spreadsheets, and databases
- Demonstrate competency in records management
- Demonstrate proficiency in organizing skills and assigning priority
- Demonstrate ethical decision-making

Revised February 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science - Transfer (AAS-T)

Medical Office Administration for LCC BAS-OLTM

Medical Administrative professionals are responsible for performing and coordinating a wide range of activities, managing information flow, providing excellent customer service, and operating advanced office technology. Organizations in a wide variety of industries, including the health care field, rely on skilled administrative staff to keep operations running efficiently and effectively. This program meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science degree in Organizational Leadership and Technical Management which prepares administrative professionals for positions in leadership, technical management and supervision.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Medical Office Administration - AAS-T (BAS-OLTM Option) (lowercolumbia.edu/program-maps/business/AAS-Medical-Office-Administration-to-BAS-OLTM)**

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher with the exception of MATH& 131
- **Natural Sciences:**
5 credits – Natural Science with lab from the Distribution List
- **Human Relations/ Social Sciences:**
5 credits – BUS 144 Management of Human Relations: DIV
- **Diversity:**
5 credits - BTEC 165 Cultural Awareness for Care Providers

Core Program Requirements

ACCT 101	Intro to Accounting Concepts	5
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AH 166	Mental Health First Aid for Adults	1
BUS 100	Foundations of Business Success	3
BTEC 104	Intro to Business Technology	5
BTEC 111	Word Processing I	5
BTEC 112	Word Processing II	5
BTEC 120	Specialized Applications for Business	3
BTEC 131	Introduction to Spreadsheets	5
BTEC 135	Advanced Data Analysis	5
BTEC 148	Introduction to Outlook	2
BTEC 164	Medical Office Law & Ethics	2
BTEC 171	Medical Reception Procedures (F)	3
BTEC 172	Medical Office Procedures (W)	3
BTEC 173	Computers in the Medical Office (Sp)	3
BTEC 181 OR MEDA 101	Medical Terminology I OR Medical Vocabulary I	3
BTEC 182 OR MEDA 102	Medical Terminology II OR Medical Vocabulary II	3
BTEC 230	Electronic Calculators II	2
BUS 294	Career Success	2
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
IT 111	Introduction to Windows	4

In addition to the core program requirements, students must select one area of expertise from the following areas of study:

Medical Billing & Coding:

BTEC 161	Intro to ICD-10 Coding, Part I (F)	5
BTEC 162	Intro to ICD-10 Coding, Part II (W)	5
BTEC 163	CPT Coding (Sp)	5
MEDA 120	Survey of Human Anatomy & Physiology	5
Community, Health, & Wellness Advocate:		
BTEC 170	Community Health Advocacy	5
BTEC 176	Social Determinants of Health	5
BTEC 177	Trauma Informed Care	5
BTEC 178	Building Sustainable Community Capacity	5
ECED& 115	Child Development	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total minimum credits required to earn this degree: 110-115 and pass each course listed in the program requirements with a C or better.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business-or business-related work environment (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking)
- Apply mathematical information to perform tasks in business and information technology to work environments (GS Numeracy/Quant. Literacy)
- Interact effectively with individuals and groups (GS Interpersonal Relations)
- Demonstrate proficiency in the use of business equipment, computer software, and technology for medical offices
- Create and manage business documents, spreadsheets, and databases
- Demonstrate competency in records management
- Demonstrate proficiency in organizing skills and assigning priority
- Demonstrate ethical decision-making

Revised May 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Certificate of Proficiency (COP)

Medical Reception

Administrative support professionals are responsible for performing and coordinating a wide range of activities, managing information flow, providing excellent customer service, and operating and maintaining a wide variety of office equipment. Many organizations across a wide variety of industries, including the health care field and medical offices, rely on skilled administrative support staff to keep operations running efficiently and effectively.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Medical Reception - COP** (lowercolumbia.edu/program-maps/business/COP-Medical-Reception)

Certificate Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I OR BUS 119 Business Communications.
- **Quantitative Skills:**
5 credits – BUS 104 Business Math Applications
- **Human Relations / Social Science:**
5 credits – BUS 144 Management of Human Relations:DIV recommended.

Program Requirements

BUS 100	Foundations of Business Success	3
BTEC 104	Intro to Business Technology	5
BTEC 111	Word Processing I	5
BTEC 165	Culture Awareness f/Healthcare Professionals:DIV	5
BTEC 171	Medical Reception Procedures	3
BTEC 181	Medical Terminology I OR	3

MEDA 101	Medical Vocabulary I	
BTEC 182	Medical Terminology II OR	3
MEDA 102	Medical Vocabulary II	
BTEC 230	Electronic Calculators II	2
BUS 294	Career Success	2
IT 111 (was CS 111)	Intro to Windows	4
HLTH 105	First Aid/CPR/BB Pathogens	1

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

To earn a Medical Reception Certificate of Proficiency, you must complete a **minimum of 51 credits** and pass each course listed in program requirements with a C or better.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business-or business-related work environment (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking)
- Apply mathematical information to perform tasks in business and information technology to work environments (GS Numeracy/Quant. Literacy)
- Interact effectively with individuals and groups (GS Interpersonal Relations)
- Demonstrate proficiency in the use of business equipment, computer software, and technology for medical offices
- Create and manage business documents, spreadsheets, and databases
- Demonstrate competency in records management
- Demonstrate proficiency in organizational skills and assigning priority
- Demonstrate ethical decision-making

Revised December 2021 (Effective Summer 2022)

Notes:

Consult an advisor if you have any questions.

Certificate of Proficiency (COP)**Multicraft Trades**

Lower Columbia College (LCC) Multicraft Trades Certificate program is designed to prepare individuals to go to work, enter an apprenticeship training program, or enroll in one of LCC's vocational programs. This program promotes a diverse and skilled workforce and prepares participants to meet basic qualifications for entry employment in a skilled trades profession.

Build Your Pathway: This program is a key asset for local workforce systems' career pathway strategies. Through partnerships with K-12 Career & Technical Programs and industry partners, this program is valuable training approach for students to build pathways to family wage careers. Participants can use this program as an entryway to a local apprenticeship, a skilled trade career, or into a LCC degree program such as Advanced Manufacturing, Diesel/Heavy Equipment Technology, Machine Trades, or Welding.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Multicraft Trades - COP (lowercolumbia.edu/program-maps/trades/COP-Multicraft-Trades)**

General Education

- **Communications:**

5 credits – ENGL& 101 English Composition I OR ENGL 110 Industrial Communication (recommended)

- **Quantitative Skills:**

5 credits – MATH 106 Industrial Mathematics

- **Human Relations / Social Science:**

5 credits – BUS 144 Management of Human Relations: DIV

Program Requirements**Multicraft Trades:**

BLPT 150 OR BLPT 160	Machinists Blueprint Reading OR Blueprint Reading for Welders	5
COLL 289	Employment Portfolio Seminar	1
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1

MASP 107 AND/OR MASP 111	Machining for Related Occupations (2-6 variable) AND/OR Machine Shop I (2-10 variable for a combined total of 10 credits)	10
MFG 105	Industrial Safety	3
MFG 115	Manufacturing Processes	5
MFG 288	Cooperative Work Experience	2*
TECH 100	Advanced Principles of Technology	5
WELD 105	Related Welding	6

*MFG 299 Independent Study may be substituted for MFG 288 with faculty program advisor permission.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: minimum of 53 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply industry standard safety and hazardous material handling guidelines.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Describe a variety of manufacturing techniques and components common to manufacturing systems.
- Perform basic machining and welding techniques.
- Interpret blueprints, diagrams and schematics associated with various manufacturing processes.

- Describe basic concepts related to mechanical, hydraulic/pneumatic, instrumentation and electrical systems.
- Describe basic process control strategies.
- Perform entry-level maintenance tasks common in manufacturing operations.
- Demonstrate competency in documenting and communicating work performed using trade specific language.
- Apply knowledge of the properties of industrial influence and the selection of primary materials and conversion into useful products.
- Describe various approaches used to ensure quality in manufacturing operations.

Revised March 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Music - DTA/MRP

Music

Designed to serve students seeking careers in music education or performance, the Associate in Music degree offers students foundational music training in technical and academic areas such as: music theory, ear training, sight singing, individual instruction, ensemble participation, and basic keyboard skills. This degree prepares students for transfer to baccalaureate music programs at participating Washington state colleges and universities, and meets the requirements for the statement Direct Transfer Agreement.

Contact your intended transfer institution regarding specific course choices where options are listed.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Music AA-DTA/MRP (lowercolumbia.edu/program-maps/arts/DTA-MRP-Music)**

Degree Requirements

• Communications:

10 credits - ENGL& 101 English Composition I AND one of the following: ENGL& 102 Composition II OR CMST& 220 Public Speaking OR CMST& 230 Small Group Communication.

• Quantitative/Symbolic Reasoning Skills:

5 credits from the following: MATH& 107 or higher.

• Humanities:

15-20 credits – 10 credits of music theory AND 5 credits from another discipline on the Distribution List. No more than 5 credits in performance/skills courses are allowed.

• **Natural Sciences:**

15-20 credits – Selected from at least two disciplines on the Distribution List, including 5 credits of lab courses. At least 10 credits must be in physical, biological and/or earth sciences. No more than 10 credits from any one discipline and no more than 5 credits from Math and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.

• **Social Sciences:**

15-20 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.

• **Diversity:**

5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 - Introduction to Sociology:DIV.

• **Electives:**

41-44 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

MUSC& 141/2/3	Music Theory I,II,III	5 ea.
MUSC 111/2/3	Ear Training I,II,III	1 ea.
MUSC& 241/2/3	Music Theory IV, V, VI	5 ea.
MUSC 176/7/8, 276/7/8	Individual Instruction I-VI	1 ea.
MUSC 106/7/8	Keyboard Skills I,II,III	1 ea.
Ensembles:		
MUSC 150	Symphonic Band	2
MUSC 130	Jazz Ensemble	2
MUSC 121/2/3, 221/2/3	Concert Choir I-VI	2 ea.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 101-104 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students will demonstrate the ability to:

- Accurately identify (visually and aurally) harmonies, pitches and rhythms.
- Prepare and perform music with a focus on interpretation (tone quality, musical style and expression), accuracy (pitch and rhythm), and technical proficiency.

- Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively. (GS Communication)
- Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions. (GS Critical Thinking)
- Interact effectively with individuals and/or within groups. (GS Interpersonal Relations)
- Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts. (GS Numeracy)
- Examine the causes and expressions of difference, power, and discrimination. (Diversity)
- Explore how people process, document, and express their social and cultural experience. (Humanities)
- Examine society, behavior, and relationships among individuals within a society. (Social Science)
- Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena. (Natural Science)

Updated June 2019 (Effective Fall 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Admission to baccalaureate music programs is competitive; therefore, no particular GPA can guarantee admission to any specific program.

Notes on Application to a University or College:

1. Admission application deadlines vary; students must meet the deadline for the university or universities to which they plan to apply for after admission.
2. Four-year institutions may have additional "university-specific" requirements for admission which are not prerequisites specifically identified in the requirements of this degree.
3. Four-year institutions may have "university-specific" requirements for graduation (e.g. institutional residency requirements). Students are advised to consult their destination college or university.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Music Focus

The music program is designed to serve both those planning to major in music and the general college student. Those who intend to major in this field and seek employment in

education or performance are expected to participate in an ensemble and to take private lessons.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits from the following: MATH& 107 or higher with the exception of MATH& 131.
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.
- **Diversity:**
5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title.
- **Electives:**
25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

MUSC& 141/2/3	Music Theory I,II,III	5 ea.
MUSC 111/112/113	Ear Training I,II,III	1 ea.
MUSC 176/7/8, 276/7/8	Individual Instruction I-VI	1 ea.
MUSC 115	Group Piano Instruction	2
Ensembles:		
MUSC 121/2/3, 221/2/3	Concert Choir I-VI	2 ea.
MUSC 150	Symphonic Band	2
MUSC 130	Jazz Ensemble	2

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- Communication: Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- Numeracy: Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Accurately identify (visually and aurally) harmonies, pitches and rhythms.
- Prepare and perform music with a focus on interpretation (tone quality, musical style and expression), accuracy (pitch and rhythm), and technical proficiency.

Revised May 2022 (Effective Summer 2022)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Pre-Nursing - DTA/MRP

Nursing - Associate in Pre-Nursing

The Associate in Pre-Nursing DTA/MRP Degree prepares students to transfer to an entry-to practice baccalaureate degree program in Nursing (BSN) and meets pre-requisite course requirements for entry into an Associate in Nursing Degree DTA/MRP program at community colleges in Washington. Students are encouraged to continue their education in a BSN program after completing the Associate in Nursing DTA/MRP degree at LCC. The Pre-Nursing DTA/MRP is applicable to other pre-healthcare programs such as dental hygiene or radiography technician. Please consult with the transfer institution and your academic advisor.

This degree includes pre-requisite coursework for pre-licensure BSN programs at participating baccalaureate institutions, which include University of Washington, Washington State University, Pacific Lutheran University, Seattle Pacific University, Seattle University, and Walla Walla University. Additional institutions may accept this degree. Each institution may have specific requirements. Students must contact the potential transfer institution and work closely with their advisor to ensure specific requirements are met. Students completing this degree who have also met any specific institutional requirements will be regarded as having the minimum preparation for consideration for admission to the institution's Bachelor of Science Nursing program.

Degree Requirements

- **Communications:**

10 credits - ENGL& 101 English Composition I AND ENGL& 102 English Composition II

- **Quantitative Skills:**

5 credits – MATH& 146 Introduction to Statistics

- **Humanities:**

15 credits – CMST& 220 Public Speaking. Remaining 10 credits from Humanities Distribution List.

- **Natural Sciences:**

35 credits – BIOL& 160 General Biology with Lab; BIOL& 241 Human A & P 1; BIOL& 242 Human A & P 2; BIOL& 260 Microbiology; CHEM& 121 Intro to Chemistry; CHEM& 131 Intro to Organic/Biochem; NUTR& 101 Nutrition

- **Social Sciences:**

15 credits – PSYC& 100 General Psychology; PSYC& 200 Lifespan Psychology; SOC& 101 Introduction to Sociology: DIV OR ANTH& 206 Cultural Anthropology: DIV

- **Diversity:**

5 credits: SOC& 101 Introduction to Sociology: DIV OR ANTH& 206 Cultural Anthropology: DIV OR other course(s) totaling 5 credits from Diversity Course List

- **Electives:**

10 credits: up to 5 credits in any college-level course; remainder of the credits must be transferable (not from "restricted list")

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 90

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- Communication: Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- Numeracy: Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Examine foundational concepts in the natural sciences (anatomy, physiology, microbiology, chemistry, nutrition) and the social sciences (sociology and psychology) as they apply to the field of healthcare.

- Communicate effectively in written and spoken English.
- Describe the role of statistical concepts in research.
- Examine the many influences on and expression of the human condition and human experience.
- Complete preparation for further education in nursing.

Effective Summer 2022

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Nursing - Direct Transfer Agreement (AN-DTA/MRP)

Nursing - LPN2RN Campus Based Opt-in Option

This degree prepares students for licensure and employment as a registered nurse, as well as for continuing nursing education for a baccalaureate degree in nursing. Students who complete this degree and pass the registered nurse license exam (NCLEX-RN) may enter participating Bachelor of Science in Nursing programs in Washington State as seniors. The Nursing Program is approved by the Washington State Nursing Care Quality Assurance Commission and accredited by the Accreditation Commission for Education in Nursing.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Nursing - AN-DTA/MRP (LPN2RN Campus Based Opt-in Option) (lowercolumbia.edu/program-maps/health/ANDTAMRP-Nursing-LPN2RN-Campus-Based-Opt-in-Option)**

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I AND ENGL& 102 English Composition II OR CMST& 220 (was SPCH 110) Public Speaking.
- **Quantitative Skills:**
5 credits – MATH& 146 Introduction to Statistics
- **Humanities:**
15 credits – HUM 255: Ethics and Policy in Healthcare (taken after admission to nursing program). 10 credits selected from at least two disciplines on the distribution list for

transfer degrees. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed. Five of these credits must also meet the DIV requirement.

- **Natural Sciences:**

30 credits – BIOL& 160, BIOL& 241, BIOL& 242, BIOL& 260, CHEM& 121, NUTR& 101

- **Social Sciences:**

15 credits – PSYC& 100 General Psychology; PSYC& 200 Lifespan Psychology; AND PSYC 255 (taken after admission to Nursing program)

- **Diversity:**

5 credits. Must be met by a course on both the Humanities distribution list and the DIV course list to stay within 135 credits.

- **Electives:**

Fulfilled by 15 credits of the Nursing courses

Program Requirements:

NURS 150	Pharmacology in Nursing I	2
NURS 151	Nurs Concepts/Health & Illness I	3
NURS 152	Nurs Concepts/Health & Illness II	5
NURS 153	Nurs Concepts/Health & Illness III	5
NURS 160	Skills in Nursing I	2
NURS 161	Nursing Practicum I	3
NURS 162	Nursing Practicum II	5
NURS 163	Nursing Practicum III	5
NURS 250	Pharmacology in Nursing II	1
NURS 251	Nurs Concepts/Health & Illness IV	4
NURS 252	Nurs Concepts/Health & Illness V	5
NURS 253	Nurs Concepts/Health & Illness VI	5
NURS 261	Nursing Practicum IV	5
NURS 262	Nursing Practicum V	5
NURS 263	Nursing Practicum VI	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 135

*Note: Admission to the nursing program is required for all NURS courses and **HUM 255 and PSYC 255**.

Admission is competitive. **Grade of C or higher is required in all courses.** ENGL& 101, MATH 210, PSYC& 100, PSYC& 200, BIOL& 160, BIOL& 241, BIOL& 242, BIOL& 260, and CHEM& 121 must be completed or in process to apply. NUTR& 101 must be completed prior to beginning the nursing coursework. It is highly recommended that the communications courses and the 10 credits of humanities (5 of which must be DIV) be completed prior to beginning the nursing coursework. To be considered for admission to the LPN2RN level of the Nursing program, the student must have graduated from a state board approved PN program and hold a current, unencumbered PN license in WA or OR. **Accepted PN license is equivalent to 30 credits (NURS 150, 151, 160, 161, 152, 162, 153, 163).** Successful completion of NURS 209 - Nursing Success, 2 credits is required before beginning NURS 261.

Students completing this program should acquire the following skills and abilities:

- Demonstrate critical thinking by applying objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions in nursing practice.
- Demonstrate competence in basic nursing knowledge and skills in the performance of the nursing roles as provider of care, manager of care, and member of the profession.
- Communicate effectively in professional nursing practice.
- Process and utilize quantitative data in professional nursing practice.
- Incorporate professional interpersonal skills and caring behaviors in nursing practice.
- Initiate equitable and inclusive nursing practices to promote and maintain health and reduce risk in diverse healthcare settings across the lifespan.

Revised May 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

To comply with health care agency requirements, students must provide documentation of the following upon admission to the program: Current first aid card, current Healthcare Provider CPR, negative urine drug screen within 30 days prior to beginning nursing coursework, all required immunizations and titers, current TB test or chest X-ray, and completion of a criminal and fraud background check. Certain criminal convictions or

pending charges automatically disqualify an individual from having unsupervised access to vulnerable adults, juveniles, and children, hence may disqualify a student from the program. Please refer to the Nursing Program website Practicum requirements, as well as the DSHS Secretary's List of Disqualifying Crimes.

Associate in Nursing - Direct Transfer Agreement (AN-DTA/MRP)

Nursing - LPN2RN eLearning

This degree prepares students for licensure and employment as a registered nurse, as well as for continuing nursing education for a baccalaureate degree in nursing. Students who complete this degree and pass the registered nurse license exam (NCLEX-RN) may enter participating Bachelor of Science in Nursing programs in Washington State as seniors. The Nursing Program is approved by the Washington State Nursing Care Quality Assurance Commission and accredited by the Accreditation Commission for Education in Nursing.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Nursing - AN-DTA/MRP (LPN2RN eLearning Option) (lowercolumbia.edu/program-maps/health/ANDTAMRP-Nursing-LPN2RN-eLearning)**

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I AND ENGL& 102 English Composition II OR CMST& 220 (was SPCH 110) Public Speaking.
- **Quantitative Skills:**
5 credits – MATH& 146 Introduction to Statistics
- **Humanities:**
15 credits – *HUM 255: Ethics and Policy in Healthcare (5 cr) (taken after admission to Nursing Program); 10 credits selected from at least two disciplines on the distribution list for transfer degrees. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed. Five of these credits must also meet the DIV requirement.
- **Natural Sciences:**
30 credits – BIOL& 160, BIOL& 241, BIOL& 242, BIOL& 260, CHEM& 121, NUTR& 101
- **Social Sciences:**
15 credits – PSYC& 100 General Psychology; PSYC& 200 Lifespan Psychology; *PSYC 255 Psychosocial Issues in Healthcare (5 cr) (taken after admission to Nursing Program)
- **Diversity:**
5 credits. Must be met by a course on both the Humanities distribution list and the DIV course list.
- **Electives:**
Fulfilled by 15 credits of the Nursing courses

Nursing Courses

NURS 150	Pharmacology in Nursing I	2
NURS 151	Nurs Concepts/Health & Illness I	3
NURS 152	Nurs Concepts/Health & Illness II	5
NURS 153	Nurs Concepts/Health & Illness III	5
NURS 160	Skills in Nursing I	2
NURS 161	Nursing Practicum I	3
NURS 162	Nursing Practicum II	5
NURS 163	Nursing Practicum III	5
NURS 241	Essential Concepts of Nursing Practice	2
NURS 242	Nursing throughout the Lifespan	3
NURS 244	Physiological Health I	4
NURS 245	Physiological Health II	4
NURS 246	Skills Laboratory	2
NURS 247	Clinical Practicum	10
NURS 248	Advanced Clinical Practicum	5
	Total Credits	60

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 135

*Note: Admission to the nursing program is required for all NURS courses, as well as **HUM 255 and PSYC 255**.

Admission is competitive. **Grade of C or higher is required in all courses.** ENGL& 101, MATH 210, PSYC& 100, PSYC& 200, BIOL& 160, BIOL& 241, BIOL& 242, BIOL& 260, and CHEM& 121 must be completed or in process to apply. NUTR& 101 must be completed prior to beginning nursing coursework. It is highly recommended that the communications courses and the 10 credits of humanities (5 of which must be DIV) be completed prior to beginning the nursing coursework. To be considered for admission to the LPN2RN level of the Nursing program, the student must have graduated from a state

board approved PN program and hold a PN license in WA or OR. **Accepted PN license is equivalent to 30 credits (NURS 150, 151, 160, 161, 152, 162, 153, 163).** You must have a current, unencumbered LPN license in WA or OR to enter this program and have documented 1000 hours work experience as an LPN within the last five years.

Students completing this program should acquire the following skills and abilities:

- Demonstrate critical thinking by applying objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions in nursing practice.
- Demonstrate competence in basic nursing knowledge and skills in the performance of the nursing roles as provider of care, manager of care, and member of the profession.
- Communicate effectively in professional nursing practice.
- Process and utilize quantitative data in professional nursing practice.
- Incorporate professional interpersonal skills and caring behaviors in nursing practice.
- Initiate equitable and inclusive nursing practices to promote and maintain health and reduce risk in diverse healthcare settings across the lifespan.

Revised May 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

To comply with health care agency requirements, students must provide documentation of the following upon admission to the program: Current first aid card, current Healthcare Provider CPR, negative urine drug screen within 30 days prior to beginning nursing coursework, all required immunizations and titers, current TB test or chest X-ray, and completion of a criminal and fraud background check. Certain criminal convictions or pending charges automatically disqualify an individual from having unsupervised access to vulnerable adults, juveniles, and children, hence may disqualify a student from the program. Please refer to the Nursing Program website Practicum requirements, as well as the DSHS Secretary's List of Disqualifying Crimes

Associate in Nursing - Direct Transfer Agreement (AN-DTA/MRP)

Nursing - Registered Nurse

This degree prepares students for licensure and employment as a registered nurse, as well as for continuing nursing education for a baccalaureate degree in nursing. Students who complete this degree and pass the registered nurse license exam (NCLEX-RN) may enter participating Bachelor of Science in Nursing programs in Washington State as

seniors. The Nursing Program is approved by the Washington State Nursing Care Quality Assurance Commission and accredited by the Accreditation Commission for Education in Nursing.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Nursing - AN-DTA/MRP (LPN2RN Campus Based Opt-in Option) (lowercolumbia.edu/program-maps/health/ANDTAMRP-Nursing-LPN2RN-Campus-Based-Opt-in-Option)**
- **Nursing - AN-DTA/MRP (lowercolumbia.edu/program-maps/health/ANDTAMRP-Nursing)**
- **Nursing - AN-DTA/MRP (LPN2RN eLearning Option) (lowercolumbia.edu/program-maps/health/ANDTAMRP-Nursing-LPN2RN-eLearning)**

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I AND ENGL& 102 English Composition II OR CMST& 220 (was SPCH 110) Public Speaking.
- **Quantitative Skills:**
5 credits – MATH& 146 Introduction to Statistics
- **Humanities:**
15 credits – *HUM 150, 250, 251: Ethics and Policy in Healthcare I (1 cr), II (2 cr), & III (2 cr) (taken after admission to Nursing Program); 10 credits selected from at least two disciplines on the distribution list for transfer degrees. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed. Five of these credits must also meet the DIV requirement.
- **Natural Sciences:**
30 credits – BIOL& 160, BIOL& 241, BIOL& 242, BIOL& 260, CHEM& 121, NUTR& 101
- **Social Sciences:**
15 credits – PSYC& 100 General Psychology; PSYC& 200 Lifespan Psychology; *PSYC 150 & 250: Psychosocial Issues in Healthcare I (2 cr), & II (3 cr) (taken after admission to Nursing Program)
- **Diversity:**
5 credits. Must be met by a course on both the Humanities distribution list and the DIV course list.
- **Electives:**
Fulfilled by 15 credits of the Nursing courses

Nursing Courses

NURS 150	Pharmacology in Nursing I	2
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NURS 151	Nurs Concepts/Health & Illness I	3
NURS 152	Nurs concepts/Health & Illness II	5
NURS 153	Nurs Concepts/Health & Illness III	5
NURS 160	Skills in Nursing I	2
NURS 161	Nursing Practicum I	3
NURS 162	Nursing Practicum II	5
NURS 163	Nursing Practicum III	5
NURS 250	Pharmacology in Nursing II	1
NURS 251	Nurs Concepts/Health & Illness IV	4
NURS 252	Nurs concepts/Health & Illness V	5
NURS 253	Nurs Concepts/Health & Illness VI	5
NURS 261	Nursing Practicum IV	5
NURS 262	Nursing Practicum V	5
NURS 263	Nursing Practicum VI	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 135. Additional credits may be used to satisfy degree requirements, but only 135 credits will transfer to four-year institutions.

*Note: Admission to the nursing program is required for all NURS courses, as well as HUM 150, 250, 251, PSYC 150 and 250.

Admission is competitive. **Grade of C or higher is required in all courses.** ENGL& 101, MATH 210, PSYC& 100, PSYC& 200, BIOL& 160, BIOL& 241, BIOL& 242, BIOL& 260, and CHEM& 121 must be completed or in process to apply. NUTR& 101 must be completed prior to beginning nursing coursework. It is highly recommended that the communications courses and the 10 credits of humanities (5 of which must be DIV) be completed prior to beginning the nursing coursework.

Students completing this program should acquire the following skills and abilities:

- Demonstrate critical thinking by applying objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions in nursing practice.

- Demonstrate competence in basic nursing knowledge and skills in the performance of the nursing roles as provider of care, manager of care, and member of the profession.
- Communicate effectively in professional nursing practice.
- Process and utilize quantitative data in professional nursing practice.
- Incorporate professional interpersonal skills and caring behaviors in nursing practice.
- Initiate equitable and inclusive nursing practices to promote and maintain health and reduce risk in diverse healthcare settings across the lifespan.

Revised May 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Nursing Program admission requirements include current Nursing Assistant Certification issued by the Washington or Oregon Department of Health. To comply with health care agency requirements, students must provide documentation of the following upon admission to the program: Current first aid card, current Healthcare Provider CPR, negative urine drug screen within 30 days prior to beginning nursing coursework, all required immunizations and titers, current TB test or chest X-ray, and completion of a criminal and fraud background check. Certain criminal convictions or pending charges automatically disqualify an individual from having unsupervised access to vulnerable adults, juveniles, and children, hence may disqualify a student from the program. Please refer to the Nursing Program website Practicum requirements, as well as the DSHS Secretary's List of Disqualifying Crimes

Certificate of Completion (COC)

Nursing Assistant

The Nursing Assistant Certificate provides the content and experiences for students to achieve mastery of the state-defined competencies required to assist in giving basic nursing care to residents/clients under the supervision of a licensed nurse.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Nursing Assistant - COC (lowercolumbia.edu/program-maps/health/COC-Nursing-Assistant)**

Program Requirements

NURS 090	Nursing Assistant	7
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NOTES:

- Nursing 090 is open to all students.
- Call 360.442.2860 for registration information.
- This course meets Washington Department of Social and Health Service's requirements as an approved Nursing Assistant course. Students who successfully complete this course are eligible to take Washington State written and skills tests to become an NA-C.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 7

Students completing this program should acquire the following skills and abilities:

- Demonstrate mastery of competencies and standards of practice as listed in WAC 246-841-400 required to assist in giving basic nursing care to residents/clients under the supervision of licensed nurse.

Revised July 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Bachelor in Applied Science (BAS)

Organizational Leadership and Technical Management

- BAS application packet
- Proof of an earned associated degree or 90 college level credits from a nationally accredited college or university with a minimum cumulative GPA of 2.5

- Successful completion of (with a 2.0 or better):
 - ENGL& 101 English Composition I
 - A college-level math course for which intermediate algebra is a prerequisite from the quantitative distribution list

DEGREE REQUIREMENTS

Communications:

- ENGL& 101 English Composition I
- CMST 330 Professional/Organizational Communications

Quantitative Skills:

- MATH& 107 Math in Society or college-level math course for which intermediate algebra is a prerequisite

Humanities:

- HUM 315 Ethics
- OLTM 440 Ethics and Leadership

Natural Science:

- ENVS 440 Environmental Issues
- Elective natural science with lab credits from the Natural Science Distribution List

Social Science:

- PSYC 320 Leadership and Organizational Psychology
- OLTM 300 Foundations of Leadership
- OLTM 445 Global Systems & Change Management
- OLTM 330 Entrepreneurship

Diversity:

- OLTM 440 Ethics and Leadership

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Advanced Manufacturing for BAS-OLTM - AAS-T (Transfer Option) (lowercolumbia.edu/program-maps/trades/AAS-T-Advanced-Manufacturing-for-BAS-OLTM)**
- **Business Management for BAS-OLTM - AAS-T (lowercolumbia.edu/program-maps/business/AAS-T-Business-Management-for-BAS-OLTM-)**
- **Medical Assisting - AAS-T (BAS-OLTM option) (lowercolumbia.edu/program-maps/health/AAS-T-Medical-Assisting-BAS-OLTM-option)**
- **Organizational Leadership and Technical Management, Full-Time Cohort - BAS (lowercolumbia.edu/program-maps/business/BAS-OLTM-FT)**
- **Organizational Leadership and Technical Management, Part-Time Cohort - BAS (lowercolumbia.edu/program-maps/business/BAS-OLTM-PT)**
- **Substance Use Disorder Studies - AAS-T (BAS-OLTM option) (lowercolumbia.edu/program-maps/health/AAS-T-Substance-Use-Disorder-Studies-BAS-OLTM-option)**

- **Welding for BAS-OLTM - AAS-T (Transfer Option) (lowercolumbia.edu/program-maps/trades/AAS-T-Welding-for-BAS-OLTM)**

See below for a list of AAS degrees that transfer directly to the BAS-OLTM program:

- **Accounting Technician - AAS-T (BAS-OLTM Option) (lowercolumbia.edu/program-maps/business/AAS-Accounting-Technician-to-BAS-OLTM)**
- **Administrative Services Manager - AAS-T (BAS-OLTM Option) (lowercolumbia.edu/program-maps/business/AAS-Administrative-Services-Manager-to-BAS-OLTM)**
- **Automotive Technology - AAS-T (BAS-OLTM Option) (lowercolumbia.edu/program-maps/trades/AAS-Automotive-Technology-to-BAS-OLTM)**
- **Criminal Justice - AAS-T (BAS-OLTM Transfer Option) (lowercolumbia.edu/program-maps/social-science/AAS-Criminal-Justice-to-BAS-OLTM)**
- **Diesel/Heavy Equipment Technology - AAS-T (BAS-OLTM Option) (lowercolumbia.edu/program-maps/trades/AAS-Diesel-Heavy-Equipment-to-BAS-OLTM)**
- **Information Technology Systems - AAS-T (BAS-OLTM Option) (lowercolumbia.edu/program-maps/info-tech/AAS-Information-Technology-Systems-to-BAS-OLTM)**
- **Machine Trades - AAS-T (BAS-OLTM Option) (lowercolumbia.edu/program-maps/trades/AAS-Machine-Trades-to-BAS-OLTM)**
- **Medical Office Administration - AAS-T (BAS-OLTM Option) (lowercolumbia.edu/program-maps/business/AAS-Medical-Office-Administration-to-BAS-OLTM)**

Program Requirements

OLTM 300	Foundations of Leadership	5
CMST 330	Professional/Organizational Communications	5
ENVS 440	Environmental Issues	5
HUM 315	Ethics	5
OLTM 320	Workplace and Environmental Safety	5
OLTM 325	Transformative Leadership & Decision Making	5
OLTM 329	Foundations of Business Practices & Emerging Technologies	5
OLTM 330	Entrepreneurship	5
OLTM 335	Developing and Leading High-Performance Teams	5

OLTM 440	Ethics and Leadership: Leading and Managing in a Diverse Society	5
OLTM 445	Global Systems & Change Management	5
OLTM 449	Financial Management	5
OLTM 450	Negotiations, Mediation and Conflict Resolution	5
OLTM 455	Advanced Project Management	5
OLTM 460	Coaching and Mentoring	5
OLTM 465	Current Issues in Human Resource Management	5
OLTM 495	Capstone	5
PSYCH 320	Leadership and Organizational Psychology	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 90 lower-division credits and 90 upper-division credits for a total of 180 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Produce oral and written communications in appropriate business formats. (GS - Communication)
- Examine data to design solutions to a problem. (GS - Critical Thinking)
- Collaborate effectively with others within the context of a work environment. (GS - Teamwork)
- Construct a philosophy of leadership to guide action.
- Analyze strategies to effectively lead others to achieve a common goal. (GS - Teamwork)
- Deliberate the moral implications of workplace dilemmas utilizing ethical reasoning.
- Examine the significance of diversity and cultural awareness within the context of management and supervision.
- Analyze strategies and methods to facilitate improvements to organizational capacity and function. (GS - Critical Thinking)
- Implement effective organizational leadership strategies to supervise others.
- Research strategies for effective professional growth and continuous improvement.

Revised October 2022 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Certificate of Proficiency (COP)

Paraeducator

This certificate prepares graduates for entry-level employment with school districts. Graduates acquire skills needed to become an important member of the instructional team, learning instructional strategies, behavior management, human development and interpersonal skills in the context of a diverse society. The program includes hands-on experiences in schools. This program will help open doors to a rewarding career as a paraeducator.

Certificate Requirements

- **Communications:**
5 credits – ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 132 Math for Elementary Educators 2
- **Human Relations/ Social Science:**
5 credits – EDUC& 115 Child Development

Program Requirements

EDUC& 101	Paraeducator Basics	3
MATH& 131	Math for Elementary Educators I	5
EDUC 191	Field Experience I	5
EDUC& 204	Inclusive Education-Birth through 21 focus	5
EDUC& 205	Intro to Education w/Field Experience: DIV	5
EDUC 246	Linguistically Diverse Education	3
EDUC 240	Diversity in Education	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 46

Students completing this program should acquire the following skills and abilities:

- Demonstrate appropriate strategies and techniques to provide instructional support to students of diverse populations.
- Assist licensed/certified staff with student instruction, behavior management and classroom preparation.
- Apply best practices in classroom management to optimize the potential for student learning.
- Practice ethical and legal standards of conduct.
- Demonstrate competence in written and oral communication, reading, and mathematics.

Revised May 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Philosophy Focus

The field of philosophy focuses on methods and systems of reasoning, critical examination of philosophic answers to questions of values and obligations, and justification of ethical beliefs. Begin studies for transfer to a baccalaureate institution to complete an advanced degree. Possible career fields include research, consulting and education.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Philosophy - AA-DTA (lowercolumbia.edu/program-maps/social-science/AADTA-Philosophy)**

Degree Requirements

• Communications:

15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.

- **Quantitative / Symbolic Reasoning Skills:**

5 credits - MATH& 107 or higher (excluding MATH& 131).

- **Humanities:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.

- **Natural Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

PHIL& 101	Intro to Philosophy	5
PHIL 120	Critical Reasoning	5
PHIL 210	Ethics	5
PHIL 260	Philosophy of Religion	5
PSYC& 100	General Psychology	5
SOC& 101	Intro to Sociology	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- **Communication:** Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- **Critical thinking:** Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- **Interpersonal relations:** Interact effectively with individuals and/or within groups.
- **Numeracy:** Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- **Diversity:** Examine the causes and expressions of difference, power, and discrimination.
- **Humanities:** Explore how people process, document, and express their social and cultural experience.
- **Social Science:** Examine society, behavior, and relationships among individuals within a society.
- **Natural Science:** Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Ability to understand and restate accurately in different words positions or arguments with which are initially disagreed upon or which are entirely new.
- The skill to temporarily detach or remain neutral to discern strengths and weaknesses in different positions.
- Awareness of the importance of holding coherent and integrated views.
- Independence of thought through which responsibility is taken for understanding and evaluating ideas in careful, responsible ways.
- Ability to reflect upon own views and consider whether other positions are stronger.

Revised June 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC

graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Science - Transfer (AS-T)

Physics

A bachelor's degree in physics is an excellent preparation for advanced study in astronomy and astrophysics, atmospheric science, biophysics, chemical physics, computer science and engineering. Students can complete the first two years of studies toward a bachelor's degree and can also specialize in physics education. Professional careers include research positions with government, universities and private industrial laboratories, observatories and science museums.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Physics - AS-T (lowercolumbia.edu/program-maps/stem/AST-Physics)**
- **Physics - AS-T (Math Transfer Option) (lowercolumbia.edu/program-maps/stem/AST-Physics-Math-Transfer-Option)**

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative / Symbolic Reasoning Skills:**
10 credits – MATH& 151* Calculus I AND MATH& 152* Calculus II.
- **Humanities / Social Science:**
15 credits – Selected from at least three disciplines on the Distribution List. A minimum of 5 credits in Humanities, and a minimum of 5 credits in Social Science, and an additional 5 credits in either Humanities or Social Science.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.
- **Pre-Major Requirements:**
35 credits. *It is recommended that sequence courses be completed at one institution.
- **Remaining Credits:**
25 credits - These remaining credits must include program advisor approved credits and should be based on the requirements of the specific discipline at the baccalaureate institution the student selects to attend.

Pre-Major Requirements

CHEM& 161*	General Chemistry w/Lab I	5
MATH& 153*	Calculus III	5
MATH& 254*	Calculus IV (was MATH 154)	5
MATH 220	Linear Algebra	5
PHYS& 221*	Engr Physics I w/Lab	5
PHYS& 222*	Engr Physics II w/Lab	5
PHYS& 223*	Engr Physics III w/Lab	5

Recommended Courses

ASTR& 101	Intro to Astronomy	5
CHEM& 162*	General Chemistry w/Lab II	5
CHEM& 163*	General Chemistry w/Lab III	5
CHEM& 261*	Organic Chemistry w/Lab I	5
CHEM& 262*	Organic Chemistry w/Lab II	5
CS 170	Fundamentals of Computer Prog	5
MATH 240	Differential Equations	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

*It is recommended that sequence courses be completed at one institution.

Minimum transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Developed the foundational background in physics and mathematics to further pursue a Bachelor's degree in Physics.
- Ability to abstract and then analyze problems or situations in physics through basic concepts and principled.
- Communicate effectively in a scientific setting.

- Developed an appreciation of the nature of physics both as a science consisting of a few fundamental principles of sweeping power, and as a process where one develops physical principles through observation, hypothesis, and experiment.

Revised March 2013 (Effective Fall 2013)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* for checking specific major requirements of baccalaureate institutions in the year prior to transferring. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Political Science Focus

The study of political science concentrates on the philosophy, structure and function of government. Career opportunities exist in law, private business, public administration, nonprofit organizations and teaching. Complete studies to transfer to earn a bachelor's degree.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **AA DTA with Political Science focus (lowercolumbia.edu/program-maps/social-science/AADTA-Political-Science)**

Degree Requirements

• Communications:

15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.

• Quantitative/Symbolic Reasoning Skills:

5 credits - MATH& 107 or higher (excluding MATH& 131).

• Humanities:

15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.

• Natural Sciences:

15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills

requirement. ANTH& 205, BIOL& 100 and 5 additional credits from physical and/or earth science are recommended. BIOL& 100 meets the laboratory requirement.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

POLS& 101	Intro to Political Science	5
POLS 107	Comparative Government	5
POLS& 202	American Government	5
POLS& 203	International Relations	5
POLS 220	The Law and Social Issues	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- **Communication:** Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- **Critical thinking:** Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.

- Interpersonal relations: Interact effectively with individuals and/or within groups.
- Numeracy: Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Clearly communicate complex information and concepts in writing and/or verbally.
- Examine political issues and policies from diverse perspectives, evaluating them in terms of both private and public good.
- Apply social science reasoning to a range of political issues and problems.
- Critically question political claims, analyzing their supporting evidence and identifying their underlying values and assumptions.
- Comprehend how politics influences students and their world.

Revised June 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Arts & Sciences (AA)

Pre-Dental Hygiene

Careers in medical professions require several years of advanced study. Medical coursework is rigorous and entry into professional schools is very competitive. Students planning a career in medicine, medical technology, dentistry, pharmacy or veterinary can begin their studies at LCC and gain a solid foundation in the basic sciences required in those fields. A number of medical schools require a foreign language.

NOTE: The program-specific Associate in Arts & Sciences (AA) transfer degree is for students who are sure of the baccalaureate institution they wish to attend. This may be a good option for students who plan to earn a bachelor's degree in a professional field. Students must work closely with their program advisor to design a program that will fulfill the transfer institution's general admission and program entry requirements. Students should expect to have courses evaluated on a course-by-course basis upon transfer to the upper division. *The LCC program advisor and the appropriate department chair must approve the intended program.*

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Pre-Dental Hygiene - AA (lowercolumbia.edu/program-maps/health/AA-Pre-Dental-Hygiene)**

Degree Requirements

- **Communications:**

15 credits – ENGL& 101 English Composition I (5 credits), AND ENGL& 102 English Composition II OR ENGL& 235 Technical Writing (5 credits), AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication (5 credits).

- **Diversity:**

5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Intro to Sociology:DIV.

- **Electives:**

37 credits. One (1) year of foreign language recommended. Completion of the courses as prescribed by faculty and accepted by the advisor and Department Chairperson is necessary.

Program Requirements

BIOL& 241	Human A & P 1	5
BIOL& 242	Human A & P 2	5
BIOL& 260	Microbiology	5
CHEM& 121	Intro to Chemistry	5
CHEM& 131	Intro to Organic/ Biochemistry	5
NUTR& 101	Nutrition	5
MATH 210	Elements of Statistics	5
PSYC& 100	General Psychology	5
SOC& 101	Intro to Sociology:DIV	5

PE Elective	Must be fitness/activity course	1
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Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Minimum credits required to earn this degree: 97. Must have a cumulative grade point average (GPA) of at least 2.0.

Students completing this program should acquire the following skills and abilities:

- Biology students will become familiar with the (empirical) scientific method of problem solving.
- Majors-level biology students will perform competitively with their peers at four-year institutions or professional programs.
- Majors-level biology students will demonstrate proficiency with life process mechanisms such as biological chemistry; cellular metabolism; heredity, anatomy and physiology of major animal organ systems; plant structure, as well as transport and reproductive function; diversity and classification of Organisms; evolution; and ecology.
- Biology students will express ideas and information in writing in a format that is clear and appropriate to a science-literate audience.
- Biology students will apply various techniques and processes using information, data, and situations, to draw logical, rational, ethical and coherent conclusions.
- Major-level biology students will achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills and abstract contexts.

Revised March 2018 (Effective Winter 2018)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Pre-Law Focus

Law careers can be built upon interests in accounting, corporate management, public administration, politics, criminal investigation, as well as legal practice. Most law schools do not require specific undergraduate programs, but recommend courses appropriate for the baccalaureate degree of the student's choice. Pre-law students should have the ability to read, write, and speak English well, a critical understanding of human values and institutions, and the creative power to think.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Pre-Law - AA-DTA** (lowercolumbia.edu/program-maps/social-science/AADTA-Pre-Law)

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Intro to Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative / Symbolic Reasoning Skills:**
5 credits - MATH& 107 or higher (excluding MATH& 131).
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline. PSYC and SOC are recommended courses.
- **Diversity:**
5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Intro to Sociology:DIV.
- **Electives:**
25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

BUS& 201	Business Law	5
CJ 154	The American Legal System	5
POLS& 101	Intro Political Science	5
POLS 220	The Law and Social Issues	5
SOC& 101	Introduction to Sociology:DIV	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average of at least 2.0. A course cannot be credited toward more than one distribution area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- Communication: Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- Numeracy: Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.

- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- A basic understanding of the institutions that develop law.
- Ability to read for a clear understanding of content and relationships.
- Reason logically and think critically.
- Solve problems given specific factual situations.
- Write and speak with clarity, precision, and style.

Revised June 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Certificate of Proficiency (COP)

Production Technician

The Production Technician Certificate of Proficiency is designed to prepare production operators for industries using high technology equipment and processes. Producers of coated steel, biofuels, energy, petrochemicals, pulp and paper, pharmaceuticals, food, and dimensional lumber are some of the industries that use automation to control production processes.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Production Technician - COP** (lowercolumbia.edu/program-maps/trades/COP-Production-Technician)

Certificate Requirements

- **Communications:**
5 credits – ENGL& 101 English Composition I OR ENGL 110 Industrial Communications (ENGL 110 recommended)
- **Quantitative Skills:**
5 credits – MATH 106 Industrial Mathematics
- **Human Relations/ Social Science:**
5 credits – BUS 144 Management of Human Relations

Program Requirements

CS 110	Intro to Microcomputer Apps	3
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3
MFG 120	Quality Assurance	4
MFG 140	Industrial Hydraulics	4
PMFG 110	Industrial and Predictive Maintenance Fundamentals	5
PMFG 150	Electrical/Electronic Fundamentals	6
PMFG 151	Process Control Equipment	5
PMFG 154	Instrumentation Fundamentals & PLCs	5
PMFG 201	Electrical Control Equipment	3
PMFG 202	Electric Motors	2
PMFG 210	Advanced Industrial Maintenance	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 61.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply industry standard safety and hazardous material handling guidelines.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.

- Identify the various components commonly used in process manufacturing operations.
- Describe basic concepts related to mechanical, hydraulic/pneumatic, instrumentation and electrical systems.
- Describe basic process control strategies.
- Perform basic maintenance tasks on common process manufacturing devices.
- Demonstrate competency in documenting and communicating work performed using trade specific language.

Revised March 2021 (Effective Summer 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Psychology Focus

Work as a guidance counselor, clinical psychologist, social worker or educator after earning your bachelor's degree. Psychology courses also supplement majors in health sciences, social sciences, business and law.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Psychology - AA-DTA ([lowercolumbia.edu/program-maps/social-science/AADT A-Psychology](http://lowercolumbia.edu/program-maps/social-science/AADT-A-Psychology))**

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative / Symbolic Reasoning Skills:**
5 credits - MATH& 107 or higher (excluding MATH& 131).
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills

requirement. ANTH& 205, BIOL& 100 and 5 additional credits from physical and/or earth science are recommended. BIOL& 100 meets the laboratory requirement.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

ANTH& 206	Cultural Anthropology	5
PSYC& 100	General Psychology	5
PSYC& 200	Lifespan Psychology	5
PSYC& 220	Abnormal Psychology	5
SOC& 101	Intro to Sociology	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- **Communication:** Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- **Critical thinking:** Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.

- Interpersonal relations: Interact effectively with individuals and/or within groups.
- Numeracy: Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Develop an understanding of scientific methods of research as they apply to the study of human behavior and mental processes.
- Comprehend how the individual's immediate environment, past experience, physiological makeup, development and socio-cultural context influence thinking, emotions and behavior.
- Comprehend and articulate the major psychological theories and contemporary trends in psychological research.
- Develop some degree of self-awareness with strategies for fostering greater psychological health.
- Acquire the knowledge necessary to enjoy meaningful personal and professional relationships; as students, parents, domestic partners, co-workers and community members.
- Develop an understanding of statistics as related to correlational and causal research.
- Demonstrate effective communication skills by reading primary and secondary source material, discussing course content, and writing coherent essays.

Revised June 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Certificate of Completion (COC)**Retail Management**

The Retail Management Certificate of Completion prepares current and future retail employees for success in the fast-paced retail industry. Students develop an understanding of the scope and requirements of a management position in a retail business. To stay competitive, grocery stores, department stores, specialty retailers, and “eTailers” need skilled people. LCC’s Retail Management certificate program was developed with, and is endorsed by, the Western Association of Food Chains (WAFC). Certificate graduates may continue their studies by applying certificate course work towards the AAS degree in Business Management.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Retail Management – COC (lowercolumbia.edu/program-maps/business/COC-Retail-Management)**

Certificate Requirements

- **Communications:**
5 credits - BUS 119 Business Communications
- **Human Relations / Social Science:**
5 credits – BUS 144 Management of Human Relations.

Program Requirements

ACCT 101	Intro to Accounting Concepts	5
BUS 159	Principles of Retailing	5
BUS 244	Human Resource Management	5
BUS 245	Principles of Management	5
BUS 264	Principles of Marketing	5
CS 110	Intro to Microcomputer Apps	3

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 38

Students completing this program should acquire the following skills and abilities:

- Articulate the relationship between human behavior, customer service, and retail business outcomes.
- Perform basic bookkeeping and accounting tasks using spreadsheets and industry standard accounting software.
- Compose written business documents, including email and reports, using industry standard software.
- Describe the core management functions of planning, organizing, leading, and controlling.
- Describe marketing principles utilized by retail organizations.
- Communicate professionally in writing and speaking as appropriate to a business work environment (GS Communication).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking).
- Apply mathematical information to make decisions and solve problems in business (GS Numeracy/Quantitative Literacy).
- Interact effectively with individuals and groups (GS Interpersonal Relations).

Revised October 2019 (Effective Winter 2020)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Sociology Focus

Study the origin, development, organization and functioning of human society as you prepare for a career in social work, public opinion research, public relations, guidance counseling, education, personnel relations or community planning. Complete a two-year degree or studies to transfer to earn a bachelor's degree.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Sociology - AA-DTA (lowercolumbia.edu/program-maps/social-science/AADTA-Sociology)**

Degree Requirements

- **Communications:**

15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.

- **Quantitative / Symbolic Reasoning Skills:**

5 credits - MATH& 107 or higher (excluding MATH& 131).

- **Humanities:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.

- **Natural Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement. ANTH& 205, BIOL& 100 and 5 additional credits from physical and/or earth science are recommended. BIOL& 100 meets the laboratory requirement.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

PSYC& 100	General Psychology	5
SOC 210	Human Sexuality:DIV	5
SOC 225	Race and Ethnicity:DIV	5
CMST& 210 (was SPCH 104)	Interpersonal Communication	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- Communication: Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- Numeracy: Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Develop an understanding of scientific methods of research as they apply to the study of human societies.
- Develop an understanding of the interpretive approaches to the study of human social interaction.
- Develop an understanding of the role that social structure, social institutions and social identity play in shaping human thought and action.
- Develop a basic understanding of crucial social institutions such as the family that has a paramount role in the structuring of social life and human development.
- Develop a basic understanding of the issues of race, ethnicity, class, gender and religion.

- Develop a basic understanding of the crucial issues of social, economic, and political inequality and the role that a history of social exclusion has played in perpetuating these inequalities.
- Gain an understanding of the role that dynamic social interaction of a society's history plays in the emergence of human diversity.
- Recognize the role that society has played in creating and perpetuating human misery (social problems).

Revised March 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Applied Science - Transfer (AAS-T)

Substance Use Disorder Studies for LCC BAS-OLTM

The Substance Use Disorder program provides courses to meet the educational requirements of the State WAC 246-811-030 for licensure of Substance Use Disorder Professional (SUDP). The curriculum includes the understanding of the following topics specific to alcohol and drug addiction treatment of individuals: Pharmacological actions of alcohol and other drugs; treatment methods; record keeping and case management; cultural diversity; health issues; community resources; individual and group counseling; relapse prevention; working with specific groups, such as youth and families; and professional and ethical responsibilities. This program meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science degree in Organizational Leadership and Technical Management which prepares professionals for positions in leadership, technical management and supervision.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Substance Use Disorder Studies - AAS-T (BAS-OLTM option) (lowercolumbia.edu/program-maps/health/AAS-T-Substance-Use-Disorder-Studies-BAS-OLTM-option)**

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.

• **Quantitative Skills:**

5 credits – MATH& 107 Math in Society or higher with the exception of MATH& 131

• 5 credits - Natural Science with lab course from the Distribution List

• **Human Relations / Social Science:**

5 credits – PSYC& 100 General Psychology.

• **Diversity:**

5 credits – choose SOC& 101 Intro to Sociology:DIV OR CMST 250 (was SPCH 109) Intercultural Communications:DIV.

• **Electives:**

8 credits minimum.

Program Requirements

SUDS 101*	Intro to Substance Use Disorders	5
SUDS 102*	Intro to Theories and Counseling	3
SUDS 107	Adolescent Substance Use Disorder Assess/Treat	3
SUDS 110*	Alcohol/Drug Pathophysiology and Pharmacology	3
SUDS 111*	Record Keeping and Case Management	3
SUDS 113	Substance Abuse and Addiction Treatment Methods	3
SUDS 121*	SUD Professional and Ethical Responsibilities	3
SUDS 201	SUD and the Family System	3
SUDS 202	SUD Counseling with Diverse Populations	3
SUDS 203	Relapse Prevention and Intervention	3
SUDS 215*	Group Counseling: Theories/Applications	3
SUDS 220	Co-Occurring Disorders	3
SUDS 288	Cooperative Work Experience	10

COLL 289*	Employment Portfolio Seminar	1
HLTH 100	Occupational Safety and Health	3
PSYC& 200	Lifespan Psychology	5

Electives

(choose 2 or 3 of the following for a minimum of 8 credits)

SUDS 105	Substance Use Disorders/ Domestic Violence	3
SUDS 109	Process of Addiction/ Compulsive Behaviors	4
SUDS 114	Suicide Assessment/ Prevention/Crisis Mgmt	2
PSYC& 220	Abnormal Psychology (PSYC& 220 not offered every quarter. Check with advisor.)	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 90-92 with a "C" or higher in the program requirements.

*These SUDS courses must be completed along with Math, English, Psychology, and Natural Science requirements to be eligible for your field work credits.

Students completing this program should acquire the following skills and abilities:

- Demonstrate critical thinking by applying objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions to client situations in chemical dependency.
- Demonstrate competency in chemical dependency principles, topics, knowledge and skills.
- Communicate effectively with faculty, peers, clients, client family systems, health care professionals, community agencies and the judicial system.
- Incorporate interpersonal skills and caring behaviors in interactions with faculty, peers, clients, client family systems, health care professionals, community agencies, the judicial system and employers.

Revised February 2023 (effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science (AAS)

Substance Use Disorder Studies

The Substance Use Disorder program provides courses to meet the educational requirements of the State WAC 246-811-030 for licensure of Substance Use Disorder Professional (SUDP). The curriculum includes the understanding of the following topics specific to alcohol and drug addiction treatment of individuals: Pharmacological actions of alcohol and other drugs; treatment methods; record keeping and case management; cultural diversity; health issues; community resources; individual and group counseling; relapse prevention; working with specific groups, such as youth and families; and professional and ethical responsibilities.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Substance Use Disorder Studies - AAS (lowercolumbia.edu/program-maps/health/AAS-Substance-Use-Disorder-Studies)**

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative Skills:**
5 credits – MATH 105 Math for Health Sciences OR higher (MATH 105 is not accepted for AA-DTA)
- **Human Relations / Social Science:**
5 credits – PSYC& 100 General Psychology.
- **Natural Sciences:**
5 or 6 credits – Choose from the following: BIOL& 100 Survey of Biology (5 cr.), OR BIOL& 170 Human Biology (5 cr.), OR BIOL& 241 Human A & P I (5 cr.), OR BIOL& 242 Human A & P II (5 cr.), OR CHEM& 100 Preparatory Chemistry (5 cr.), OR NUTR& 101 Nutrition (5 cr.)
- **Diversity:**
5 credits – choose SOC& 101 Intro to Sociology:DIV OR CMST 250 (was SPCH 109) Intercultural Communications:DIV.

- **Electives:**

8 credits minimum.

Program Requirements

SUDS 101	Intro to Substance Use Disorders	5
SUDS 102	Intro to Theories and Counseling	3
SUDS 107	Adolescent Substance Use Disorder Assess/Treat	3
SUDS 110	Alcohol/Drug Pathophysiology and Pharmacology	3
SUDS 111	Record Keeping and Case Management	3
SUDS 113	Substance Abuse and Addiction Treatment Methods	3
SUDS 121	SUD Professional and Ethical Responsibilities	3
SUDS 201	SUD and the Family System	3
SUDS 202	SUD Counseling with Diverse Populations	3
SUDS 203	Relapse Prevention and Intervention	3
SUDS 215	Group Counseling: Theories/Applications	3
SUDS 220	Co-Occurring Disorders	3
SUDS 288	Cooperative Work Experience	10
COLL 289	Employment Portfolio Seminar	1
HLTH 100	Occupational Safety and Health	3
PSYC& 200	Lifespan Psychology	5

Electives

(choose 2 or 3 of the following for a minimum of 8 credits)

SUDS 105	Substance Use Disorders/ Domestic Violence	3
SUDS 109	Process of Addiction/ Compulsive Behaviors	4
SUDS 114	Suicide Assessment/ Prevention/Crisis Mgmt	2
PSYC& 220	Abnormal Psychology (PSYC& 220 not offered every quarter. Check with advisor.)	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 90-92 with a "C" or higher in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Demonstrate critical thinking by applying objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions to client situations in chemical dependency.
- Demonstrate competency in chemical dependency principles, topics, knowledge and skills.
- Communicate effectively with faculty, peers, clients, client family systems, health care professionals, community agencies and the judicial system.
- Incorporate interpersonal skills and caring behaviors in interactions with faculty, peers, clients, client family systems, health care professionals, community agencies, the judicial system and employers.

Revised February 2023 (effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Substance Use Disorder Studies Focus

Prepare for baccalaureate coursework in psychology, human development, or other related discipline. This option is designed for students who intend to complete the Associate in Applied Science degree in Substance Use Disorder Studies at LCC and plan to continue their education for a baccalaureate degree in a related field.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Substance Use Disorder Studies - AA/DTA (lowercolumbia.edu/program-maps/health/AADTA-Substance-Use-Disorder-Studies)**

Degree Requirements

- **Communications:**

15 credits - ENGL& 101 English Composition I AND ENGL& 102 English Composition II AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.

- **Quantitative Skills:**

5 credits - MATH& 107 or higher with the exception of MATH& 131.

- **Humanities:**

15 credits – selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.

- **Natural Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement. Recommended from the following: BIOL& 100, BIOL& 160, BIOL& 241, BIOL& 242, CHEM& 110, CHEM& 121, NUTR& 101.

- **Social Sciences / Diversity:**

15 credits – SOC& 101:DIV, PSYC& 100, SUDS 101.

- **Electives:**

25 credits – PSYC& 200, 15 credits of SUDS courses (not including SUDS 101), and 5 credits from the non-restricted course list.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- Communication: Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- Numeracy: Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Solve problems using quantitative/symbolic reasoning skills.
- Communicate effectively in written and spoken English.
- Develop a basic understanding of the many influences on human behavior and expression of the human experience.
- Demonstrate foundational skills required for entry-level counseling experience in chemical dependency.
- Develop a basic understanding of scientific reasoning as it applies to the study of human behavior
- Articulate the major concepts involved in chemical dependency and its treatment.

Revised February 2023 (effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Bachelor in Applied Sciences (BAS)

Teacher Education

program map (lowercolumbia.edu/program-maps/education/)

- BAS application packet
- Proof of an earned associate degree or 90 college level credits from a nationally accredited college or university with a minimum cumulative GPA of 2.5
- Successful completion of (with a 2.0 or better):
 - ENGL& 101 - English Composition I
 - A college-level math course for which intermediate algebra is a prerequisite from the quantitative distribution list (MATH& 132 is recommended)
 - EDUC& 115 - Child Development
 - EDUC& 150 - Child/Family/Community
 - EDUC& 205 - Intro to Education w/Field Experience
 - HIST& 136 - US History I or HIST& 137 - US History II

ADDITIONAL ADMISSIONS REQUIREMENTS

- Scores from the WEST B, ACT or SAT (track one only). Learn more about the **WEST-B (www.pesb.wa.gov/preparation-programs/assessments/basic-skills-assessment-west-b/)** . Students who score below benchmark will be required to complete a remediation plan once admitted to the program.
- Completion of consent to share data with OSPI and PESB

ADDITIONAL PROGRAM REQUIREMENTS

- Office of the Superintendent for Public Instruction (OSPI) or Department of Children, Youth, and Families (DCYF) Background Check
- Pre-residency clearance (track one only)

DEGREE REQUIREMENTS

- **Communications:** 10 credits
 - ENGL& 101 English Composition I
 - 5 additional credits from the LCC communications distribution list (CMST& 220 or ENGL& 102 recommended)
- **Quantitative Skills:** 5 credits
 - MATH& 107 or a college-level math course for which intermediate algebra is a prerequisite (MATH& 132 recommended)
- **Humanities:** 5 credits
 - 5 credits from the LCC Humanities distribution list

- **Natural Sciences:** 5 credits
 - 5 credits with lab, from the LCC Natural Science distribution list
- **Social Science:** 15 credits
 - EDUC& 115 Child Development (also meets Human Relations requirement)
 - HIST& 137 US History II or HIST& 136 US History I
 - EDUC 319 Anti-Bias Education
- **Diversity:** 10 credits
 - EDUC& 205 Introduction to Education
 - EDUC 319 Anti-Bias Education
- **Electives:** 10 credits
 - An additional 10 credits from the distributions above

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Teacher Education - BAS (Full-Time Cohort, Certificated Route) (lowercolumbia.edu/program-maps/education/BAS-Teacher-Education-FT-certificated)**
- **Teacher Education - BAS (Full-Time Cohort, Early Childhood Education) (lowercolumbia.edu/program-maps/education/BAS-Teacher-Education-FT-ECE)**
- **Teacher Education - BAS (Part-Time Cohort, Certificated Route) (lowercolumbia.edu/program-maps/education/BAS-Teacher-Education-PT-certificated)**
- **Teacher Education - BAS (Part-Time Cohort, Early Childhood Education) (lowercolumbia.edu/program-maps/education/BAS-Teacher-Education-PT-ECE)**

Program Requirements:

EDUC 300	Foundations of Teacher Education	5
EDUC 319	Anti-Bias Education	5
EDUC 320	Language Arts for Teachers	5
EDUC 325	Intro to Special Education	5
EDUC 330	Math Methods	5
EDUC 335	Professionalism, Collaboration & Classroom Leadership	5
EDUC 340	Concepts of Motor Skills	1
EDUC 345	Curriculum Development & Design	5
EDUC 350	Creative Arts Across the Curriculum	1
EDUC 410	Inquiry Based Science for Teachers	4

EDUC 414	Guidance Techniques	5
EDUC 420	Social Studies for Teachers	4
EDUC 429	Assessment	5
EDUC 430	Advanced Language & Literacy Methods	4

In addition to core program requirements, students must select one of the following tracks prior to their senior year:

Track 1: Teacher Certification

EDUC 301	Practicum I	4
EDUC 302	Practicum II	4
EDUC 401	Reflective Practice I	1
EDUC 402	Reflective Practice II	1
EDUC 403	Reflective Practice III	1
EDUC 411	Student Teaching I	5
EDUC 412	Student Teaching II	5
EDUC 413	Student Teaching III	5
EDUC 439	Portfolio and Professional Assessment	5

Additional Exit Requirements for Track #1 Certification

- Passing score of either the Early Childhood or Elementary Education endorsement assessment (or both for dual endorsement) National Evaluation Series (NES) Test 101 - early childhood education, or tests 102 and 103 Elementary Education subtests 1 & 2. These are content knowledge assessments required prior to being certified to teach in a particular subject area. Learn more about the **WEST-E/NES (www.pesb.wa.gov/preparation-programs/assessments/content-knowledge-assessment-west-e-and-nes/)** .
- Complete the pedagogy (teacher performance) assessment. **Learn more about testing and assessments (www.pesb.wa.gov/preparation-programs/assessments/)** .
- Successful completion of required clinical hours.
- Meet all requirements of OSPI for residency teacher certification.

Track 2: Early Childhood Education

ECED 301	Practicum I	4
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ECED 302	Practicum II	4
ECED 401	Reflective Practice I/ Coaching & Mentoring	1
ECED 402	Reflective Practice II/ Leadership	1
ECED 403	Reflective Practice III/ Advocacy	1
ECED 411	Student Teaching I	5
ECED 412	Student Teaching II	5
ECED 413	Student Teaching III	5
ECED 439 OR EDUC 439	Issues and Trends OR Portfolio and Professional Assessment (required for certification)	5

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 180 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Compare a variety of assessment, diagnosis, and evaluation practices in collaboration with colleagues and families to guide the learning and holistic development of each student (GS - Teamwork).
- Justify the importance of relationships with students, families, colleagues, and community agencies and is able to create and maintain those relationships to support children's learning and development.
- Evaluate cultural beliefs and biases; articulate and apply an understanding of how people differ in their perspectives and approaches; and create learning opportunities that are culturally responsive for students and their families.
- Predict student behavior and possible external stressors to effectively choose and implement strategies that support each student's success in the learning community (GS - Critical Thinking).
- Discriminate data from a variety of sources to inform decisions about instruction, services, programs, interventions, and practices (GS - Critical Thinking).
- Prepare plans based on theory, regularly analyze, evaluate, and synthesize results of their teaching practice and make appropriate changes that more fully serve each student and their family (GS - Critical Thinking).

- Formulate and apply the central concepts of the arts, Language Arts, health and fitness, mathematics, science, technology and social studies, and identify resources to support student's growth across the disciplines.
- Construct and implement lesson plans that support individual student growth across the developmental continuum utilizing child development theory, including knowledge of typical and atypical developments.
- Value ongoing professional development to ensure research-based best practices, alignment with state and national standards and changing district-wide curriculum protocols.
- Appraise, implement, and monitor Individual Family Service Plans (IFSPs), Individual Educational Programs (IEPs), and 504 Plans in collaboration with families, as well as multi-disciplinary and multi-agency teams, to provide the services and supports necessary for the optimal growth of students with diverse abilities (GS - Teamwork).

Revised March 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science - Transfer (AAS-T)

Welding

for LCC BAS-OLTM

The Welding AAS-T degree prepares students for the state commercial welding examination or welding jobs in manufacturing, maintenance, or fabrication. Students must successfully complete the Washington Association of Building Officials (WABO) Qualification Test before earning a degree in Welding. This program also meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science degree in Organizational Leadership and Technical Management (BAS-OLTM) which prepares industry professionals for positions in leadership, management and supervision.

Degree Requirements

- **Communications:**
5 credits – ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher (excluding MATH& 131)
- **Natural Sciences:**
5 credits – Natural Science with lab from the Distribution List

• **Diversity / Human Relations:**

5 credits – BUS 144 Management of Human Relations: DIV

Program Requirements

BLPT 160	Blueprint Reading for Welders	5
COLL 289	Employment Portfolio Seminar	1
CS 110	Introduction to Microcomputer Applications	3
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3
MASP 107	Machining for Related Occupations	6
WELD 141	SMAW - Stick Welding with E7018	10
WELD 142	Advanced SMAW - WABO	10
WELD 143	SMAW - Stick Welding with E6010	10
WELD 158	Welding Theory and Fabrication	5
WELD 241	FCAW-G - Dual Shield Wire Feed Welding with E71T-1	10
WELD 242	Advanced FCAW-G - WABO	6
WELD 243	GMAW - Solid Wire Feed Welding with ER70S-6 and ER5356	6
WELD 255	GTAW - Tig Welding with ER70S-6 and ER5356	6-10
WELD 288	Cooperative Work Experience	2
WELD 70/75	Welding Certification (WABO)	0

WELD 288 may be substituted for 2 credits of WELD 299 Independent Study or any Elective with program advisor permission.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: minimum 104-108 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment. (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions. (GS Critical Thinking)
- Apply mathematical information to perform tasks in industrial technology. (GS Numeracy/Quantitative Literacy)
- Interact effectively with individuals and groups. (GS Interpersonal Relations)
- Display work appropriate behavior including positive attitude, timeliness, and teamwork.
- Apply industry standard safety and hazardous material handling guidelines.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Safely operate equipment and tools used in welding, cutting, and fabricating.
- Demonstrate competency in advanced level welding and cutting processes.
- Perform welding activities following written and verbal instructions.
- Demonstrate competency interpreting prints, drawings, and symbols for welding and fabricating.
- Communicate work performed using trade specific language.
- Complete tasks accurately, safely, and within a given timeframe.

Revised May 2023 (Effective Summer 2023)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science (AAS)

Welding

Prepare for the state commercial welding examination or qualify for welding jobs in manufacturing, maintenance, or construction through LCC's welding program. Students

must successfully complete the Washington Association of Building Officials (WABO) Qualification Test before earning a degree in Welding.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Welding - AAS (lowercolumbia.edu/program-maps/trades/AAS-Welding)**

Degree Requirements

- **Communications:**
5 credits – ENGL 110 Industrial Communications recommended.
- **Quantitative Skills:**
5 credits – MATH 106 Industrial Mathematics recommended.
- **Human Relations / Social Science / Diversity:**
5 credits – BUS 144 Management of Human Relations:DIV meets all three requirements and is recommended.
- **Humanities / Natural Sciences:**
5 credits – DHET 240 Fluid Power/Electrical Theory & Design OR TECH 100 Advanced Principles of Technology OR MFG 130 Materials Science OR choose from the Distribution List.

Program Requirements

BLPT 160	Blueprint Reading for Welders	5
COLL 289	Employment Portfolio Seminar	1
CS 110	Intro to Microcomputer Applications	3
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3
MASP 107	Machining for Related Occupations	6
WELD 141	SMAW - Stick Welding with E7018	10
WELD 142	Advanced SMAW - WABO	10
WELD 143	SMAW - Stick Welding with E6010	10
WELD 158	Welding Theory and Fabrication	5

WELD 241	FCAW-G - Dual Shield Wire Feed Welding with E71T-1	10
WELD 242	Advanced FCAW-G - WABO	6
WELD 243	GMAW - Solid Wire Feed Welding with ER70S-6 and ER5356	6
WELD 255	GTAW - Tig Welding with ER70S-6 and ER5356	6-10
WELD 288	Cooperative Work Experience	2
WELD 70/75	Welding Certification (WABO)	0

WELD 288 may be substituted for 2 credits of WELD 299 Independent Study or any Elective with program advisor permission.

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 104-108 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment. (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions. (GS Critical Thinking)
- Apply mathematical information to perform tasks in industrial technology. (GS Numeracy/Quantitative Literacy)
- Interact effectively with individuals and groups. (GS Interpersonal Relations)
- Display work appropriate behavior including positive attitude, timeliness, and teamwork.
- Apply industry standard safety and hazardous material handling guidelines.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Safely operate equipment and tools used in welding, cutting, and fabricating.
- Demonstrate competency in advanced level welding and cutting processes.
- Perform welding activities following written and verbal instructions.
- Demonstrate competency interpreting prints, drawings, and symbols for welding and fabricating.

- Communicate work performed using trade specific language.
- Complete tasks accurately, safely, and within a given timeframe.

Revised December 2021 (Effective Summer 2022)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Certificate of Proficiency (COP)

Welding

The welding certificate program helps prepare the student for employment in manufacturing or maintenance.

For a roadmap that identifies the preferred sequencing of courses and other specific recommendations from faculty, please see the corresponding program map(s):

- **Welding - COP** (lowercolumbia.edu/program-maps/trades/COP-Welding)

Certificate Requirements

- **Communications:**
5 credits – ENGL 110 Industrial Communications recommended.
- **Quantitative Skills:**
5 credits – MATH 106 Industrial Mathematics recommended.
- **Human Relations / Social Sciences / Diversity:**
5 credits – BUS 144 Management of Human Relations: DIV meets all three requirements and is recommended.

Program Requirements

BLPT 160	Blueprint Reading for Welders	5
CS 110	Intro to Microcomputer Applications	3
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3
WELD 141	SMAW - Stick Welding with E7018	10

WELD 158	Welding Theory and Fabrication	5
WELD 241	FCAW-G - Dual Shield Wire Feed Welding w/ E71T-1	10
WELD 243	GMAW - Solid Wire Feed Welding with ER70S-6 and ER5356	6

Diversity and Distribution Lists (lowercolumbia.edu/publications/catalog/distribution-lists) are available in the Lower Columbia College Catalog located at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 58.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment. (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions. (GS Critical Thinking)
- Apply mathematical information to perform tasks in industrial technology. (GS Numeracy/Quant. Literacy)
- Interact effectively with individuals and groups. (GS Interpersonal Relations)
- Display work appropriate behavior including positive attitude, timeliness, and teamwork.
- Apply industry standard safety and hazardous material handling guidelines.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Safely operate equipment and tools used in welding, cutting, and fabricating.
- Demonstrate competency in entry level welding and cutting processes.
- Perform welding activities following written and verbal instructions.
- Demonstrate competency in interpreting prints, drawings, and symbols for welding and fabricating.
- Communicate work performed using trade specific language.
- Complete tasks accurately, safely, and within a given timeframe.

Revised December 2021 (Effective Summer 2022)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.