

Master of Engineering (MEng) – Course Requirements

Environmental and Green Engineering (EEG)

| CORE COURSES (SELECT 1 FROM EACH CATEGORY) | | |
|---|---|--|
| Category 1: CBE 9350 – Physical Principles of Environmental Engineering | | |
| Category 2: CBE 9361 - Biological Wastewater Treatment; OR CBE 9312 - Air Pollution Control; OR CBE 9314 – Solid Waste Treatment | | |
| Category 3: CBE 9334 - Green Fuels and Chemicals; OR CBE 9311 – Green Energy and Engineering; OR CBE 9556 – Integrated Resource Recovery | | |
| PROFESSIONAL ENGINEERING COURSES (SELECT 2 COURSES ONLY – TAUGHT IN SUMMER TERM ONLY) | | |
| ENGSCI 9010 - Intellectual Property for Engineers | ENGSCI 9015 – Commercializing Innovation | ENGSCI 9185 - Risk Assessment and Management Engineering Systems |
| ENGSCI 9501 – Business and Management | ENGSCI 9510 – Engineering Planning and Project Management | ENGSCI 9670 – Engineering Communication |
| ELECTIVE COURSES | | |
| CBE 9110 – Chemical Kinetics & Catalysis (Non-Eng Bkgnd) | CBE 9112 – Design & Analysis Principles (Non-Eng. Bkgnd) | CBE 9115 – Fundamentals of Heat & Mass Transfer |
| CBE 9150 - Advanced Chemical Engineering Thermodynamics | CBE 9155 – Advanced Fluid Mechanics | CBE 9132 – Energy & Fuel Production Systems |
| CBE 9160 - Transport Processes | CBE 9170 - Mathematical Methods in Engineering | CBE 9180 - Instrumental Methods of Analysis |
| CBE 9190 - Statistical Process Analysis | CBE 9211 - Fundamentals of Biochemical Eng. | CBE 9241 - Nano-biotechnology |
| CBE 9250 - Advanced Biomaterials Engineering | CBE 9260 - Advanced Bioengineering and Biotechnology | CBE 9263 - Biosensors: Principles and Applications |
| CBE 9312 - Air Pollution Control | CBE 9334 - Green Fuels and Chemicals | CBE 9350 - Physical Principles of Environmental Engineering |
| CBE 9417 - Industrial Catalysis | CBE 9424 - Computer Process Control | CBE 9450 - Advanced Chemical Reaction Engineering |
| CBE 9456 – Critical Review of Global Energy | CBE 9461 - Advanced Process Control | CBE 9544 - Pharmaceutical Manufacturing Processes |
| CBE 9550 - Advanced Particle and Fluidization Engineering | CBE 9561 - Adv. High Velocity Fluidization | |
| NOTES | | |
| 1. Graduate courses from other disciplines in the Faculties of Engineering may be taken as technical electives subject to the approval of the Associate-Chair, MEng. 2. If a core course is not currently being offered, it will be replaced by another course subject to the program director approval. | | |

Master of Engineering (MEng) – Course Requirements

Biomaterials and Biochemical Engineering (BB)

| CORE COURSES (SELECT 1 FROM EACH CATEGORY) | | |
|---|---|--|
| Category 1: CBE 9260 – Bioengineering and Biotechnology | | |
| Category 2: CBE 9250 – Advanced Biomaterials Engineering | | |
| Category 3: CBE/BME 9526 – Tissue Engineering; OR CBE 9241 Nano-biotechnology | | |
| PROFESSIONAL ENGINEERING COURSES (SELECT 2 COURSES ONLY – TAUGHT IN SUMMER TERM ONLY) | | |
| ENGSCI 9010 - Intellectual Property for Engineers | ENGSCI 9015 – Commercializing Innovation | ENGSCI 9185 - Risk Assessment and Management Engineering Systems |
| ENGSCI 9501 – Business and Management | ENGSCI 9510 – Engineering Planning and Project Management | ENGSCI 9670 – Engineering Communication |
| ELECTIVE COURSES | | |
| CBE 9110 – Chemical Kinetics & Catalysis (Non-Eng Bkgnd) | CBE 9112 – Design & Analysis Principles (Non-Eng. Bkgnd) | CBE 9115 – Fundamentals of Heat & Mass Transfer |
| CBE 9150 - Advanced Chemical Engineering Thermodynamics | CBE 9155 – Advanced Fluid Mechanics | CBE 9132 – Energy & Fuel Production Systems |
| CBE 9160 - Transport Processes | CBE 9170 - Mathematical Methods in Engineering | CBE 9180 - Instrumental Methods of Analysis |
| CBE 9190 - Statistical Process Analysis | CBE 9211 - Fundamentals of Biochemical Eng. | CBE 9241 - Nano-biotechnology |
| CBE 9250 - Advanced Biomaterials Engineering | CBE 9260 - Advanced Bioengineering and Biotechnology | CBE 9263 - Biosensors: Principles and Applications |
| CBE 9312 - Air Pollution Control | CBE 9334 - Green Fuels and Chemicals | CBE 9350 - Physical Principles of Environmental Engineering |
| CBE 9417 - Industrial Catalysis | CBE 9424 - Computer Process Control | CBE 9450 - Advanced Chemical Reaction Engineering |
| CBE 9456 – Critical Review of Global Energy | CBE 9461 - Advanced Process Control | CBE 9544 - Pharmaceutical Manufacturing Processes |
| CBE 9550 - Advanced Particle and Fluidization Engineering | CBE 9561 - Adv. High Velocity Fluidization | |
| NOTES | | |
| 1. Graduate courses from other disciplines in the Faculties of Engineering may be taken as technical electives subject to the approval of the Associate-Chair, MEng. 2. If a core course is not currently being offered, it will be replaced by another course subject to the program director approval. | | |

Master of Engineering (MEng) – Course Requirements

Reactions and Process Systems Engineering (RP)

| CORE COURSES (SELECT 1 FROM EACH CATEGORY) | | |
|---|---|--|
| Category 1: CBE 9450 – Advanced Chemical Reaction Engineering | | |
| Category 2: CBE 9115 – Fundamentals of Heat & Mass Transfer; OR CBE 9350 – Physical Principles of Environmental Engineering | | |
| Category 3: CBE 9170 – Mathematical Methods in Engineering; OR CBE 9455 – Advanced Polymerization Engineering; OR CBE 9551 – Advanced Design in Fluidized Bed Reactors | | |
| PROFESSIONAL ENGINEERING COURSES (SELECT 2 COURSES ONLY – TAUGHT IN SUMMER TERM ONLY) | | |
| ENGSCI 9010 - Intellectual Property for Engineers | ENGSCI 9015 – Commercializing Innovation | ENGSCI 9185 - Risk Assessment and Management Engineering Systems |
| ENGSCI 9501 – Business and Management | ENGSCI 9510 – Engineering Planning and Project Management | ENGSCI 9670 – Engineering Communication |
| ELECTIVE COURSES | | |
| CBE 9110 – Chemical Kinetics & Catalysis (Non-Eng Bkgnd) | CBE 9112 – Design & Analysis Principles (Non-Eng. Bkgnd) | CBE 9115 – Fundamentals of Heat & Mass Transfer |
| CBE 9150 - Advanced Chemical Engineering Thermodynamics | CBE 9155 – Advanced Fluid Mechanics | CBE 9132 – Energy & Fuel Production Systems |
| CBE 9160 - Transport Processes | CBE 9170 - Mathematical Methods in Engineering | CBE 9180 - Instrumental Methods of Analysis |
| CBE 9190 - Statistical Process Analysis | CBE 9211 - Fundamentals of Biochemical Eng. | CBE 9241 - Nano-biotechnology |
| CBE 9250 - Advanced Biomaterials Engineering | CBE 9260 - Advanced Bioengineering and Biotechnology | CBE 9263 - Biosensors: Principles and Applications |
| CBE 9312 - Air Pollution Control | CBE 9334 - Green Fuels and Chemicals | CBE 9350 - Physical Principles of Environmental Engineering |
| CBE 9417 - Industrial Catalysis | CBE 9424 - Computer Process Control | CBE 9450 - Advanced Chemical Reaction Engineering |
| CBE 9456 – Critical Review of Global Energy | CBE 9461 - Advanced Process Control | CBE 9544 - Pharmaceutical Manufacturing Processes |
| CBE 9550 - Advanced Particle and Fluidization Engineering | CBE 9561 - Adv. High Velocity Fluidization | |
| NOTES | | |
| <ol style="list-style-type: none"> 1. Graduate courses from other disciplines in the Faculties of Engineering may be taken as technical electives subject to the approval of the Associate-Chair, MEng. 2. If a core course is not currently being offered, it will be replaced by another course subject to the program director approval. | | |

Master of Engineering (MEng) – Course Requirements

Particle Technology and Fluidization (PT)

| CORE COURSES (SELECT 1 FROM EACH CATEGORY) | | |
|---|---|--|
| Category 1: CBE 9550 – Advanced Particle and Fluidization Engineering | | |
| Category 2: CBE 9115 – Fundamentals of Heat & Mass Transfer; OR CBE 9450 – Advanced Chemical Reaction Engineering | | |
| Category 3: CBE 9561 – Advanced High Velocity Fluidization Technology; OR CBE 9587 – Fine Powder Technologies and Application | | |
| PROFESSIONAL ENGINEERING COURSES (SELECT 2 COURSES ONLY – TAUGHT IN SUMMER TERM ONLY) | | |
| ENGSCI 9010 - Intellectual Property for Engineers | ENGSCI 9015 – Commercializing Innovation | ENGSCI 9185 - Risk Assessment and Management Engineering Systems |
| ENGSCI 9501 – Business and Management | ENGSCI 9510 – Engineering Planning and Project Management | ENGSCI 9670 – Engineering Communication |
| ELECTIVE COURSES | | |
| CBE 9110 – Chemical Kinetics & Catalysis (Non-Eng Bkgnd) | CBE 9112 – Design & Analysis Principles (Non-Eng. Bkgnd) | CBE 9115 – Fundamentals of Heat & Mass Transfer |
| CBE 9150 - Advanced Chemical Engineering Thermodynamics | CBE 9155 – Advanced Fluid Mechanics | CBE 9132 – Energy & Fuel Production Systems |
| CBE 9160 - Transport Processes | CBE 9170 - Mathematical Methods in Engineering | CBE 9180 - Instrumental Methods of Analysis |
| CBE 9190 - Statistical Process Analysis | CBE 9211 - Fundamentals of Biochemical Eng. | CBE 9241 - Nano-biotechnology |
| CBE 9250 - Advanced Biomaterials Engineering | CBE 9260 - Advanced Bioengineering and Biotechnology | CBE 9263 - Biosensors: Principles and Applications |
| CBE 9312 - Air Pollution Control | CBE 9334 - Green Fuels and Chemicals | CBE 9350 - Physical Principles of Environmental Engineering |
| CBE 9417 - Industrial Catalysis | CBE 9424 - Computer Process Control | CBE 9450 - Advanced Chemical Reaction Engineering |
| CBE 9456 – Critical Review of Global Energy | CBE 9461 - Advanced Process Control | CBE 9544 - Pharmaceutical Manufacturing Processes |
| CBE 9550 - Advanced Particle and Fluidization Engineering | CBE 9561 - Adv. High Velocity Fluidization | |
| NOTES | | |
| 1. Graduate courses from other disciplines in the Faculties of Engineering may be taken as technical electives subject to the approval of the Associate-Chair, MEng. 2. If a core course is not currently being offered, it will be replaced by another course subject to the program director approval. | | |

Master of Engineering (MEng) – Course Requirements

Food Processing in Engineering (FP)

| CORE COURSES (SELECT 1 FROM EACH CATEGORY – FN COURSES ARE ALL TAUGHT AT BRESCIA COLLEGE) | | |
|---|---|--|
| Category 1: CBE 9460 – Fundamentals of Food Process Engineering | | |
| Category 2: CBE 9115 – Fundamentals of Heat & Mass Transfer; OR CBE 9350 – Physical Principles of Environmental Engineering | | |
| Category 3: FN 9342 – Food Science; OR FN 9430 – Food Analysis | | |
| PROFESSIONAL ENGINEERING COURSES SELECT 1 ENGSCI AND 1 FN COURSE ONLY (ENGSCI TAUGHT IN SUMMER TERM ONLY, FN NOT TAUGHT IN SUMMER) | | |
| ENGSCI 9010 - Intellectual Property for Engineers | ENGSCI 9015 – Commercializing Innovation | ENGSCI 9185 - Risk Assessment and Management Engineering Systems |
| ENGSCI 9501 – Business and Management | ENGSCI 9510 – Engineering Planning and Project Management | ENGSCI 9670 – Engineering Communication |
| FN 9111 – Food and Nutritional Policies and Regulations | FN 9410 – Global Policies in Food Safety | |
| ELECTIVE COURSES | | |
| CBE 9110 – Chemical Kinetics & Catalysis (Non-Eng Bkgnd) | CBE 9112 – Design & Analysis Principles (Non-Eng. Bkgnd) | CBE 9115 – Fundamentals of Heat & Mass Transfer |
| CBE 9150 - Advanced Chemical Engineering Thermodynamics | CBE 9155 – Advanced Fluid Mechanics | CBE 9132 – Energy & Fuel Production Systems |
| CBE 9160 - Transport Processes | CBE 9170 - Mathematical Methods in Engineering | CBE 9180 - Instrumental Methods of Analysis |
| CBE 9190 - Statistical Process Analysis | CBE 9211 - Fundamentals of Biochemical Eng. | CBE 9241 - Nano-biotechnology |
| CBE 9250 - Advanced Biomaterials Engineering | CBE 9260 - Advanced Bioengineering and Biotechnology | CBE 9263 - Biosensors: Principles and Applications |
| CBE 9312 - Air Pollution Control | CBE 9334 - Green Fuels and Chemicals | CBE 9350 - Physical Principles of Environmental Engineering |
| CBE 9417 - Industrial Catalysis | CBE 9424 - Computer Process Control | CBE 9450 - Advanced Chemical Reaction Engineering |
| CBE 9456 – Critical Review of Global Energy | CBE 9461 - Advanced Process Control | CBE 9544 - Pharmaceutical Manufacturing Processes |
| CBE 9550 - Advanced Particle and Fluidization Engineering | CBE 9561 - Adv. High Velocity Fluidization | |
| FN 9420 – Sensory Evaluation of Food | FN 9440 – Current Issues in Food Science and Technology | |
| NOTES | | |
| <ol style="list-style-type: none"> 1. Graduate courses from other disciplines in the Faculties of Engineering may be taken as technical electives subject to the approval of the Associate-Chair, MEng. 2. If a core course is not currently being offered, it will be replaced by another course subject to the program director approval. 3. Where a student graduated from the Brescia College Food & Nutrition Undergraduate degree, courses taken in UG will not be credited towards the MEng. Alternate courses will need to be selected to avoid duplication of content. You may discuss this with the graduate coordinator or Associate-Chair, MEng. | | |

