

Estimated Number of Badges Expected to be Issued:

Notes:

- A Mason Digital Credentials Advisory Group may be developed to review

Banner Title: Energy Transition Mgmt Minor

Is this a retitling of an existing program? No

Existing Program

Registrar/OAPI Use Only – SCHEV

Registrar’s Office Use Only –

Program Start Term

Registrar/OAPI Use Only – SCHEV

Registrar/OAPI Use Only – SACSCOC Status

Concentration(s):

INTO Major(s):

Registrar/IRR Use Only –

Concentration(s):

College/School: School of Business

Department / Academic Unit: School of Business

Jointly Owned Program? Yes

Participating Colleges

	College
1	College of Engineering and Computing
2	College of Science

Participating Departments

Justification

There are increasing pressures on both public and private sector organizations throughout the world to accelerate the transition from fossil fuels to cleaner sources of alternative energy. These pressures stem from stakeholder concerns about climate change, regulatory mandates to reduce carbon emissions, and growing awareness of the long-term threat of resource depletion/scarcity. In response to these pressures a wide range of businesses and government agencies are engaging in activities aimed at reducing emissions in the short-term, and transitioning to renewable energy sources in the mid-to long term.

This transition involves the active management of multiple technical, organizational, and financial factors, while facing rapidly changing technology and an uncertain policy environment. The professional staff who will be working with the organizations taking part in this transition, will require a unique mix of skills and knowledge from several academic disciplines including engineering and information technology, environmental policy, and business management. The 18-credit Energy Transition Management Minor is designed to prepare students with the knowledge and skill sets required to effectively participate in this important activity and ultimately take leadership positions in moving our economy and society to a cleaner and more sustainable future.

Career Opportunities

The career opportunities associated with energy transition management span a wide range of job categories in both public and private sector organizations.

Private Sector

Companies that create alternative energy technology and/or infrastructure will require design and engineering talent who have the ability to lead multifunctional project teams. They will also need sales and marketing professionals who have the technical knowledge to successfully position their offerings in the market. Companies that will be deploying these technologies including solar arrays, wind turbines, and EV infrastructure among others, will require managers to oversee its implementation, as well as professionals to ensure it is successfully integrated into the organization's existing energy infrastructure. There will also be increasing demand for consultants with expertise in energy transition to advise organizations in the identification of appropriate technologies and the development of company-specific solutions.

Public Sector

Government entities at all levels will be exploring the potential to diversify energy supplies in order to lower costs and enhance resiliency. Engineering and management talent will be required to execute the government's oversight and regulatory responsibilities related to the incorporation of alternative energy systems into the public utility grid, as well as its use by private sector entities and individuals.

Catalog Published Information

Total Credits Required: 18

Registrar's Office Use Only - Program Code:

Registrar/IRR Use Only – Program CIP Code

Admission Requirements:

Overview

There are increasing pressures on both public and private sector organizations throughout the world to accelerate the transition from fossil fuels to cleaner sources of alternative energy. This transition involves the active management of multiple technical, organizational, and financial factors, while facing rapidly changing technology and an uncertain policy environment. The 18-credit Energy Transition Management Minor is designed to prepare students with the knowledge and skill sets required to effectively participate in this important activity and ultimately take leadership positions in moving our economy and society to a cleaner and more sustainable future.

Program-Specific Policies:

Policies

At least eight credits must be unique to the minor and not applied toward any other major, minor, or concentration. Students must achieve a grade of C or better in each course that is applied toward the minor.

For policies governing all minors, see [AP.5.3.4 Minors](#). The School of Business residency requirement for this minor supersedes the university requirement: at least nine credits must be earned at Mason.

Degree Requirements:

Required Courses (9 Credits)

ECE 311	Energy Infrastructure, Market, and Management	3
EVPP 361	Introduction to Environmental Policy	3
MGMT 303	Principles of Management	3
Choose one of the following courses: (3 credits)		3
BUS 210	Business Analytics I (Mason Core)	
CEIE 100	Environmental Engineering around the World (Mason Core)	
CONF 330	Community, Group, and Organizational Conflict Analysis and Resolution	
PHYS 131	Introduction to Renewable Energy	

Total Credits 12

Electives

Two elective courses from the following two tracks (6 credits): 6

Change Management Track

The Change Management track provides students with the tools needed to facilitate the process of organizational change required for energy transition to take place. These changes can include modification to the organization's structure, business model, culture, and technologies employed. Students can hone their ability to work collaboratively and resolve disagreements in a productive manner.

MGMT 313	Organizational Behavior
MGMT 413	Organizational Development and Management Consulting
MGMT 463	Negotiations in Organizations
MGMT 464	Teamwork and Interpersonal Skills
MGMT 471	Competitive Strategy

Infrastructure and Sustainable Energy Track

The Infrastructure and Sustainable Energy track provides students with knowledge about the alternative energy sources and the technical aspects of modern electric power systems that are the ultimate destination of any energy transition program. The energy transition process is at its core an engineering challenge, and students in this minor would be advised to gain a comprehensive understanding of what is required to make this transition a reality. Additionally, this track will help students understand the complex economic, security, and policy trade-offs that accompany energy transition initiatives.

[CEIE 355](#)

Environmental Engineering and Science

[ECE 411](#)

Electricity Sector Engineering, Economics, and Regulation

[ECE 417](#)

Smart Grid and Cyber Security

[ECON 435](#)

Economics of Energy

[EVPP 432](#)

Energy Policy

[PHYS 331](#)

Physics of Renewable Energy

Total Credits

6

**Retroactive
Requirements
Updates:**

Plan of Study:

**Honors
Information:**

**Accelerated
Description/Dual
Degree
Description:**

**INTO-Mason
Requirements:**

**College
Requirements &
Policies:**

**Department /
Academic Unit
Requirements &
Policies:**

Program Outcomes

Additional Program Information

This information is required by the Office of Accreditation and Program Integrity.

**Courses offered via
distance (if**

Indicate whether students are able

What is the primary delivery format for the program?

Does any portion of this program occur off-campus?

Off-campus details:

Are you working with a vendor / other collaborators to offer your program?

Please explain:

Related
Departments

Could this program prepare students for any type of professional licensure, in Virginia or elsewhere?

Additional SCHEV & SACSCOC Information

Is the content of the new program closely related to that of an existing approved program at the same instructional level (i.e., baccalaureate, master's, doctoral)?

Which existing approved program(s)?

Is this new program considered to be "advancing the degree level of a currently approved program" (i.e. existing content is at lower degree level, new content is at the higher degree level)?

Which existing approved program(s)?

Is this new program considered to be "lowering the degree level of a currently approved program" (i.e. existing content is at higher degree level, new content is at the lower degree level)?

Which existing approved program(s)?

Is this a re-opening of a program that was closed to admission within the last five years?

Date of Program Closure

What are the methods of delivery for the program?

Does this program include a course/credit-based competency-based education delivery option?

Is this change a simple retitling of an existing program, with no other changes, to any existing program content, curriculum requirements, etc?

Does this change represent a repackaging of content in an existing approved degree/certificate program at the same instructional level (i.e., baccalaureate, master's, or doctoral)?

Which existing approved program(s)?

Percentage of total credits containing new course content. ("New course content" is defined by SACSCOC as content that is not currently included in an existing approved degree/certificate program at the same instructional level. Do not exclude gen ed credits in calculations for undergraduate programs.)

Does this change include the addition of a distance education or face-to-face method of delivery for this program?

What is the new method of delivery?

Does this change include the addition of a course/credit-based competency-based education delivery option?

OAPI Use Only – Determination of SACSCOC Impact

Comments or Notes

Green Leaf Program Designation

Is this a Green Leaf program?

Green Leaf Designation

Sustainability-focused academic programs require at least one green leaf course. Either that course is itself sustainability-focused or else the program requires a set of sustainability-related courses with aggregated substance equivalent to a sustainability-focused course.

Relationship to Existing Courses

Relationship to Existing Programs

List sustainability-focused courses currently required in the degree

List sustainability-related courses currently required in the degree

Does this program cover material which crosses into another department?

Yes

Impacted Departments

Department
College of Engineering and Computing
Computer Science

Additional Attachments

SCHEV Proposal Executive Summary

Reviewer Comments

Additional Comments

Is this course required of all students in this degree program?

[%wi_required.eshtml%](#)

Attached Document

[%attach_document.eshtml%](#)