WPI

Name:	Andrew Sifferlen	**Academic Level:**	Undergraduate
ID:	290612394	**Programs of Study:**	Biomedical Engineering (BS) Business Minor
Print Date:	Jun 21, 2023	**Degree Awarded:**	Bachelor's Degree
Declare Date:	Aug 15, 2019	**Degree Date:**	May 13, 2023
		Honors:	With High Distinction

Transfer Credit

Term	Course	Grade	Attempted	Earned
TR	MA 1021 - Calculus I	L	3	3
TR	MA 1022 - Calculus II	L	3	3
TR	MA 1023 - Calculus III	L	3	3
TR	MA 2611 - Applied Statistics I	L	3	3
TR	PH 1110 - General Physics-Mechanics	L	3	3

2019 Fall Semester *Dean's List

Term	Course	Grade	Attempted	Earned
A19	BUS 1010 - Leadership Practice	A	3	3
A19	ECE 2010 - Introduction To Electrical And Computer Engineering	A	3	3
A19	MA 1024 - Calculus IV	A	3	3
B19	BME 1001 - Introduction To Biomedical Engineering	A	3	3
B19	HI 2313 - American History, 1789-1877	A	3	3
B19	PE 2011 - Varsity Men's And Women's Indoor Track Team	A	0.75	0.75
B19	PH 1121 - Principles Of Physics-Electricity And Magnetism	A	3	3

2020 Spring Semester *Dean's List

Term	Course	Grade	Attempted	Earned
C20	BME 1004 - Introduction To Programming In Matlab	A	3	3
C20	CH 1010 - Chemical Properties, Bonding, And Forces	A	3	3
C20	MA 2051 - Ordinary Differential Equations	A	3	3
C20	PE 2011 - Varsity Men's And Women's Indoor Track Team	A	0.75	0.75
D20	CH 1020 - Chemical Reactions	A	3	3
D20	EN 2233 - American Literature: Modernism To The Present	A	3	3
D20	ES 2001 - Introduction To Materials Science	A	3	3
D20	PE 2014 - Varsity Men's And Women's Outdoor Track Team	A	0.75	0.75

2020 Summer Semester

Term	Course	Grade	Attempted	Earned
E20	ECON 1110 - Introductory Microeconomics	A	3	3

2020 Fall Semester *Dean's List

Term	Course	Grade	Attempted	Earned
A20	BME 2211 - Biomedical Data Analysis	A	3	3
A20	ES 2501 - Introduction To Static Systems	A	3	3
A20	HI 1311 - Introduction To American Urban History	A	3	3
B20	BB 1025 - Human Biology	A	3	3
B20	CH 2310 - Organic Chemistry I	A	3	3
B20	HI 2320 - Modern European History	A	3	3

2021 Spring Semester *Dean's List

Term	Course	Grade	Attempted	Earned
C21	BB 2550 - Cell Biology	A	3	3
C21	BME 3505 - Solid Biomechanics Laboratory: Techniques	A	1.5	1.5
C21	ES 2502 - Stress Analysis	A	3	3
C21	HI 2350 - Tpcs Hist Sci: Geophysical	A	3	3
D21	BME 3111 - Physiology And Engineering	A	3	3

2021 Spring Semester *Dean's List

Term	Course	Grade	Attempted	Earned
D21	BUS 2060 - Financial Statements For Decision Making	A	3	3
D21	ME 2820 - Materials Processing	A	3	3
D21	PE 2014 - Varsity Men's And Women's Outdoor Track Team	A	0.75	0.75

2021 Fall Semester *Dean's List

Term	Course	Grade	Attempted	Earned
A21	BME 3503 - Skeletal Biomechanics Laboratory	A	1.5	1.5
A21	BME 3811 - Biomaterials Lab	A	1.5	1.5
A21	BUS 2020 - The Legal Environment Of Business Decisions	A	3	3
A21	ID 2050 - SOC SCI RES- IQP: Prague (WI)	A	3	3
A21	ID PQP - Future Prague IQP Sponsorships	A	1.5	1.5
B21	CDR IQP - Establishing IQP Partner Relationships in Prague	A	0	0
B21	ID IQP - Future Prague IQP Sponsorships	A	9	9
B21	PC 1000 - Project Center - Prague	AT	0	0

2022 Spring Semester

Term	Course	Grade	Attempted	Earned
C22	BME 3300 - Biomedical Engineering Design	A	3	3
C22	BME 3610 - Transport Analysis In Bioengineering	A	3	3
C22	BME 3813 - Cellular Engineering Lab	A	1.5	1.5
C22	PE 2011 - Varsity Men's And Women's Indoor Track Team	A	0.75	0.75
D22	BME 4701 - Cell And Molecular Bioengineering	A	3	3
D22	BUS 2070 - Risk Analysis For Decision Making	A	3	3
D22	CDR HUA - Early American History Seminar	A	0	0
D22	HU 3900 - INQ SEM: Early American History	A	3	3

2022 Summer Semester

Term	Course	Grade	Attempted	Earned
E22	INT 1000 - Internship	AT	0	0

2022 Fall Semester

Term	Course	Grade	Attempted	Earned
A22	BME MQP - Validating and Manufacturing a Bio-realistic Surgical Phantom for Laparoscopic and Robotic Surgical Training	A	1.5	1.5
B22	BME MQP - Validating and Manufacturing a Bio-realistic Surgical Phantom for Laparoscopic and Robotic Surgical Training	A	1.5	1.5
F22	CP 1000 - Coop: Lexagene	AT	0	0

2023 Spring Semester *Dean's List

Term	Course	Grade	Attempted	Earned
C23	BME 4201 - Biomedical Imaging	A	3	3
C23	BME 4504 - Biomechanics	A	3	3
C23	BME 4831 - Drug Delivery	A	3	3
C23	BME MQP - Validating and Manufacturing a Bio-realistic Surgical Phantom for Laparoscopic and Robotic Surgical Training	A	3	3
D23	BME 4828 - Biomaterial - Tissue Interactions	A	3	3
D23	BME MQP - Validating and Manufacturing a Bio-realistic Surgical Phantom for Laparoscopic and Robotic Surgical Training	A	3	3
D23	BUS 4030 - Achieving Strategic Effectiveness	A	3	3
D23	CDR MQP - Bio-realistic Surgical Phantom Development and Validation	A	0	0

CDR IQP - Completion of Degree Requirement IQP **2021 Fall Semester** **Grade: A**

Establishing IQP Partner Relationships in Prague

While in Prague, this project team researched potential sponsor organizations to establish relationships in Prague and grow the number of project opportunities available to future Prague IQP students. The team interviewed 8 center directors from other WPI global project centers to develop criteria for suitable partners. The team discovered potential organizations through interviews with 2 intermediate contacts in Prague, online research, and personal observations, narrowing their list based on the criteria from the center directors. The team developed an informational presentation about the IQP and delivered it at 7 meetings with representatives from potential WPI partners. The team initiated new relationships which will positively impact future project activity at the Prague center.

CDR HUA - Completion of Degree Requirement HUA	2022 Spring Semester	Grade: A

Early American History Seminar

A seminar considering Mason Locke Weems's Life of George Washington, one of the earliest and most popular biographies of the first president. The work for this seminar included papers about the author's religious influence on readers and a comparison with other early nineteenth century writers' view on George Washington's religion.

CDR MQP - Completion of Degree Requirement MQP	2023 Spring Semester	Grade: A

Bio-realistic Surgical Phantom Development and Validation

Surgical trainers are essential to improving the learning curve of surgical procedures in a patient-free environment. Although there are currently a diverse set of surgical trainers on the market, all fall short of accurately simulating the environment of a human body. The team developed a bio-realistic surgical trainer for laparoscopic right colectomy surgeries that outperforms current alternatives in simulating organ and connective tissue mechanical and anatomical properties. The team utilized polyvinyl alcohol and silicone to produce model organs and multiple layers of synthetic mesentery. Through validation procedures, the team has gained quantitative and qualitative results with the support of mechanical testing and surgeon feedback.