

**AUBURN  
UNIVERSITY  
AND THE  
UNITED NATIONS  
SUSTAINABLE  
DEVELOPMENT  
GOALS**

2016-2018

# Report Author

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**“We are not afraid of change; we will lead it. We are not afraid of the future; we will shape it.”**

Auburn University Strategic Plan 2019-2024

# Table of Contents

<b>Executive Summary</b>	<b>5</b>
<b>Introduction</b>	<b>7</b>
<b>Methodology</b>	<b>8</b>
<b>Current Work</b>	<b>9</b>
<b>Next Steps</b>	<b>11</b>
<b>SDG Spreads</b>	<b>14</b>
Goal 1	14
Goal 2	16
Goal 3	18
Goal 4	20
Goal 5	22
Goal 6	24
Goal 7	26
Goal 8	28
Goal 9	30
Goal 10	32



# Table of Contents

Goal 11	34
Goal 12	36
Goal 13	38
Goal 14	40
Goal 15	42
Goal 16	44
Goal 17	46
<b>Acknowledgments</b>	<b>48</b>
<b>Notes</b>	<b>49</b>

# Executive Summary

The United Nations Sustainable Development Goals (SDGs) comprise 17 goals addressing global issues related to poverty, climate, inequality, environmental degradation, peace, and justice.<sup>1</sup> In 2015, 193 countries adopted these goals, aiming to improve the quality of life for people worldwide.

As a land-grant institution, Auburn University's mission is to improve quality of life for people across the state of Alabama, the nation, and the world.<sup>2</sup> Land-grant universities are designed to provide practical solutions to pressing societal issues, make higher education more accessible to a broader segment of American citizens, and create economic and social opportunity and development.<sup>3</sup> Along with Auburn University's commitment to fulfilling its responsibilities as a land-grant institution, the Auburn University strategic plan outlines Auburn University's commitment to lead change, shape the future, and become a world-renowned institution.<sup>3</sup>

The United Nations (UN) prioritizes providing practical solutions to societal issues and creating economic and social opportunity and development. Many actors have transformed these priorities into action, including the UN Sustainable Development Solutions Network (SDSN). The mission of SDSN is to mobilize universities toward research, outreach, and collective action; build awareness, dialogue, and progress on the SDGs; and understand and address sustainable development challenges at local, state, and national levels.<sup>4</sup> Auburn University is a charter member of the SDSN United States chapter, an effort led by the Provost, the College of Forestry and Wildlife Sciences, the College of Human Sciences, and the Office of Sustainability. As a leader within its community, state, nation, and world, and as an institution built upon the mission of improving quality of life for all people, Auburn University is an essential player in the movement to achieve the UN SDGs by 2030.

## Purpose

The purpose of this report is to describe Auburn University's engagement with the United Nations SDGs through metrics of teaching, research, and outreach from 2016 to 2018. Student involvement is included as an additional metric, as "active social responsibility distinguishes the student experience at all land-grant universities, and certainly at Auburn University."<sup>3</sup>

## Methods

The Academic Sustainability Program, Hunger Solutions Institute, and Office of Sustainability collaborated to collect and analyze data regarding Auburn University's engagement with the SDGs. Leaders from Academic Sustainability Program developed an inventory of SDG-related teaching, research, and outreach within every college, school, and department. Categories included in the inventory were courses, majors, minors, graduate programs, departmental research, centers and institutes, and student organizations. These data were originally collected by Academic Sustainability

Programs for use in the 2019 Association for the Advancement of Sustainability in Higher Education Sustainability Tracking, Assessment, & Rating System (AASHE STARS) report. Research assistants with Hunger Solutions Institute coded inventory entries for the SDG with which it was most closely related.

## **Statistical Analysis**

Research assistants then determined the frequency with which each SDG appeared in each category and ranked each SDG by highest frequency in the greatest number of categories.

## **Results**

In descending order beginning with the SDG with which Auburn University is most engaged, the six SDGs with which Auburn University was most highly engaged from 2016 to 2018 were

- Goal 3: Good health and wellbeing
- Goal 12: Responsible consumption and production
- Goal 15: Life on land
- Goal 10: Reduced inequalities
- Goal 9: Industry, innovation, and infrastructure
- Goal 11: Sustainable cities and communities

In ascending order beginning with the SDG with which Auburn University is least engaged, the four SDGs with which Auburn University engaged to a lesser degree from 2016 to 2018 were

- Goal 17: Partnerships to achieve goals
- Goal 1: No poverty
- Goal 4: Quality education
- Goal 5: Gender equality

The remaining SDGs not listed above are the SDGs with which Auburn University engaged moderately from 2016 to 2018. These are SDGs 2, 6, 7, 8, 13, 14, and 16.

## **Conclusions and Next Steps**

While Auburn University has much to celebrate regarding its engagement with specific SDGs, many opportunities exist for further SDG engagement across all categories of teaching, research, service, and student involvement. This report may be used by Auburn University administration, faculty, and students to learn more about each of the 17 SDGs as well as gain insight into what Auburn University is already doing to support each goal.

- How can we move forward with the six most represented goals?
- What do we do about SDGs that fell in the mid-range of representation?
- Is it important to prioritize increased attention to underrepresented goals?

The United Nations SDGs are a common thread to unite the world in pursuit

of sustainable progress that improves the planet and quality of life for all people. As Auburn University continues to strengthen its position as a national and global leader in higher education, the SDGs must support this pursuit. Auburn University can be proud of how well it has begun to direct its teaching, research, and outreach toward achieving higher quality of life for people worldwide.

# Introduction

Sustainability at Auburn University is upheld by four central pillars – nature, economy, society, and wellbeing. These pillars are deeply interconnected, as one cannot be upheld without the others. Because the United Nations Sustainable Development Goals (UN SDGs) are built upon these interconnected themes of nature, economy, society, and wellbeing, the SDGs themselves are also interconnected and depend on each other for success. The SDGs are a unified set of interconnected global priorities that leave no one behind. The symbiotic nature of the SDGs aligns with Auburn University’s commitment to “reaching across or dissolving intra-organization boundaries,” as work supporting the SDGs will encourage collaboration among Auburn University’s various disciplines, organizations, departments, and colleges.<sup>3</sup> The 17 SDGs were adopted in 2015 as a “blueprint to achieving a more equitable and sustainable future for all.”<sup>1</sup>



To achieve the SDGs by 2030, every country, state, community, and institution has been called upon to act. Achieving the SDGs will require a concerted effort. Universities are crucial to achieving the SDGs.<sup>5</sup> Universities serve as incubators of new ideas, inventions, and solutions. They raise awareness and educate about the SDGs on their campuses, in their communities, and beyond.<sup>5</sup> As a leader within the Auburn community, Alabama, the US, and the world, and as an institution built upon the mission of improving quality of life for all people, Auburn University is an essential player in the movement to achieve the UN SDGs by 2030.

The purpose of the *Auburn University and the United Nations Sustainable Development Goals* report is to describe Auburn University's engagement with the UN SDGs through teaching, research, outreach, and student involvement. The bulk of this report includes 17 spreads dedicated to sharing a detailed look into what each SDG means, offering tangible targets that increase awareness about the mission of each SDG. The report will highlight the SDGs with which Auburn University engages to a great degree and SDGs with which Auburn University is less engaged. Additionally, the report is designed to raise awareness of the SDGs, so university students and faculty may join the global movement to achieve the SDGs by 2030.

## Methodology

The *Auburn University and the United Nations Sustainable Development Goals* report reflects a descriptive study determining the alignment of Auburn University's teaching, research, and outreach with the UN SDGs. For the purpose of the study, the author defined teaching as courses, majors, minors, and graduate programs. Research is identified as departments conducting SDG-related research. Outreach is comprised of centers, institutes, and student organizations. Authors utilized the definitions developed by the UN to conceptualize and operationalize the SDGs. The study included Auburn University's teaching, research, and outreach activities from 2016 to 2018.

### Instruments

The Academic Sustainability Program provided an inventory of sustainability-related courses, majors, minors, graduate programs, and faculty research at Auburn University from 2016 to 2018. The inventory was compiled for the development of Auburn University's Association for the Advancement of Sustainability in Higher Education Sustainability Tracking, Assessment, & Rating System (AASHE STARS) report. AASHE STARS assesses higher education institutions across categories of academics, engagement, operations, planning and administration, and innovation and leadership.<sup>2</sup> Data collected for the purpose of the STARS report may skew toward the environmental facet of sustainability as a result of the way the data collection process was conducted. The STARS report focuses only on core campus data, any data pertaining to activities outside Auburn University's core campus were collected through additional research by report contributors.

Undergraduate research assistants with Hunger Solutions Institute conducted web-based searches to operationalize outreach, including centers, institutes, and student organizations at Auburn University from 2016 to 2018. Research assistants used the Auburn University website listing for all sanctioned student organizations to find the purpose and mission statements of all on-campus organizations. If the mission of an organization aligned with one of the SDGs, it was added to the inventory. Using an online listing of all centers and institutes at Auburn University, all mission statements were again analyzed for whether or not their missions were related to an SDG and were added to the inventory.

## **Procedures**

The final inventory, including teaching, research, and outreach activities pertaining to SDGs, was organized by teaching, research, and outreach categories: courses, majors, minors, graduate programs, faculty research, centers and institutes, and student organizations. A research assistant coded each inventory entry for the SDG with which it most closely related. A separate research assistant coded each inventory entry as well. Upon completion of coding by both research assistants, the two sets of coded inventories were compared to determine discrepancies in coding. Discrepancies were discussed, and a final coding was determined for each discrepancy.

After the inventory of all sustainability-related teaching, research, and outreach was finalized, a research assistant determined the frequency of teaching, research, and outreach categories within each SDG. The research assistant then ranked SDGs based on frequencies within each SDG. Using ranked SDGs, the research assistant identified SDGs Auburn University engaged with most, which represented SDGs whose content was present in most categories of teaching, research, and outreach. Ranked SDGs also supported the identification of SDGs with which Auburn University engaged with least, which represented SDGs whose content was present in few categories of teaching, research, and outreach.

# **Current Work**

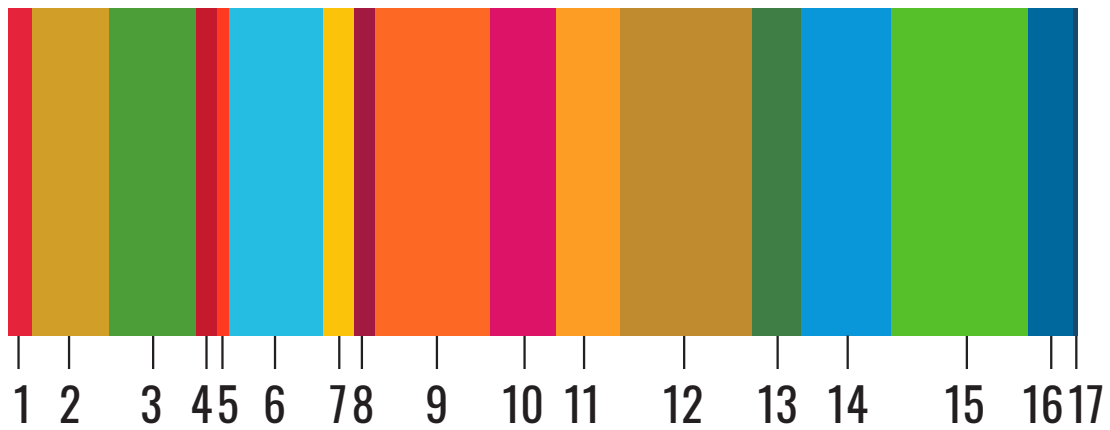
The findings of this report are intended to be an asset for Auburn University administrators, faculty, staff, students, and alumni as Auburn University strives to increase awareness and engagement with the UN SDGs. The interconnected, interdisciplinary nature of the SDGs encourages collaboration among faculty, staff, and students. Auburn University men and women can draw on their diverse expertise to promote and work collectively toward these multi-faceted goals.

The six SDGs with which Auburn University was most highly engaged across a greater number of categories were SDGs 3, 12, 15, 10, 9, and 11. The four SDGs with which Auburn University engaged to a lesser degree were SDGs 17, 1, 4, and 5. The SDG spreads that make up the bulk of this report detail Auburn University's current work to support the 17 SDGs. The spreads highlight some of Auburn University's teaching, research, and outreach activities specific to each SDG and offer insight into each SDG's prevalence across inventory categories. The values representing the total

in each inventory category are minimums, meaning there are at least the given amount of activities in each category. Auburn University's current work toward the SDGs has established a firm foundation on which to build even stronger efforts in the future.

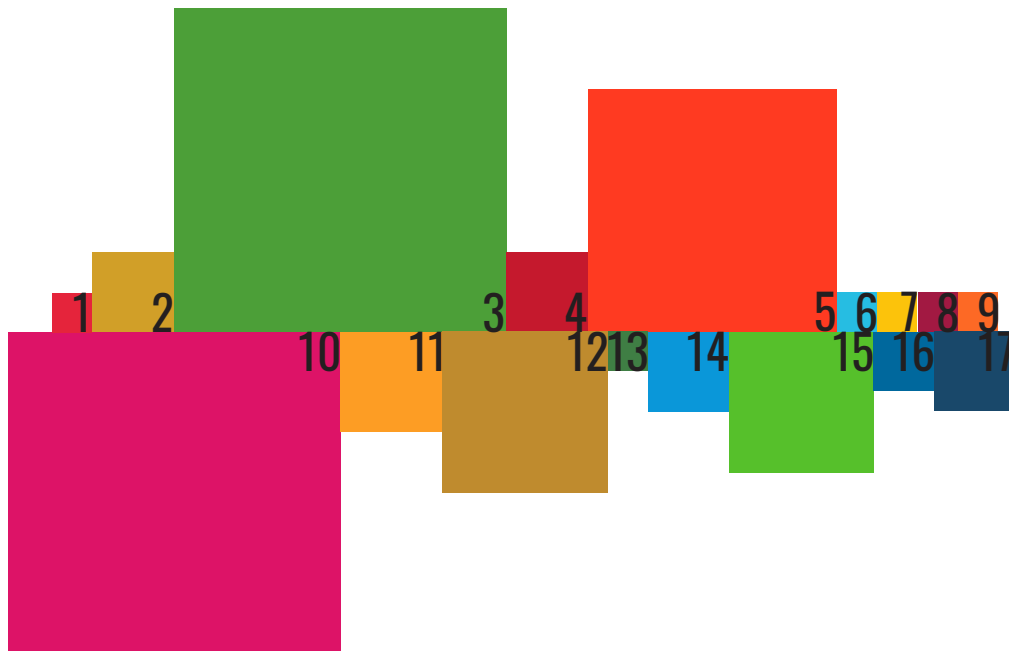
### Figure 1: Teaching

Teaching includes Auburn University's courses, majors, minors, and graduate programs. SDGs 9, 12, and 15 have the strongest presence across all teaching categories.



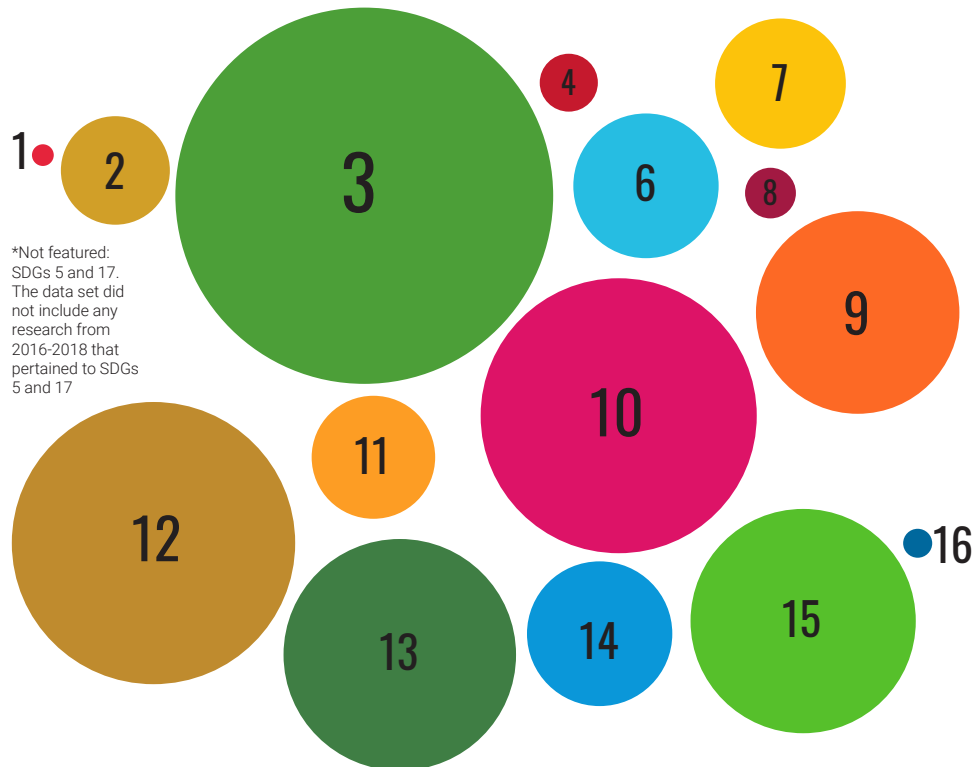
### Figure 2: Outreach

Outreach is comprised of all student organizations, centers, and institutes affiliated with Auburn University. SDGs 3, 5, and 10 represent the greatest number of outreach organizations.



## Figure 3: Research

Research consists of academic departments conducting research related to each SDGs. The greatest number of departments are conducting research related to SDGs 3, 10, and 12.



## Next Steps

Following the release of the *Auburn University and the United Nations Sustainable Development Goals* report, strategies will be implemented across Auburn University to increase awareness, engagement, and collaboration across the SDGs.

Promotion of SDG awareness is being executed through curriculum and media. One awareness resource that will be valuable to raising SDG awareness across AU will be [aub.ie/sdgs](http://aub.ie/sdgs), a website that will make clear connections between AU initiatives and the SDGs, describe AU's role as a member of the Sustainable Development Solutions Network, and act as a database for SDG information in many forms. The Office of Sustainability raises awareness of SDGs by highlighting one SDG per month on their website from August 2020-May 2021, and other University offices may follow in their footsteps.

Increasingly, professors are developing curricula that incorporate SDGs into student learning. Auburn University can begin to formally link course content to specific



SDGs, which has already been done informally through this report. Auburn University can also encourage faculty and department chairs to enhance and expand course content specifically related to the SDGs. Engagement with research and outreach will increase as Auburn University dives deeper into the SDGs that are already well-represented and strengthens the SDG areas in which Auburn University is invested to a lesser degree.

Collaboration among Auburn University offices and departments can spark innovation and progress through initiatives, research, and programming that draws on diverse skillsets and resources. This report may act as a catalyst for connecting potential collaborators through their work to support SDGs. There remain abundant opportunities for Auburn University for its forward thinking, orientation toward service, and leadership in the movement for a more sustainable future for all.

To further establish itself as a university known globally, Auburn University intends to “rise in meaningful metrics of university success” and “set measurable and aggressive targets for those metrics,”<sup>3</sup> as outlined in Auburn University’s strategic plan. Auburn University can reach its goal of achieving world renown and rising in meaningful metrics of university success by participating in metrics-based university assessments such as The Times Higher Education Impact Ranking and SDSN Voluntary University Review, which gauge university engagement with the UN SDGs.

For future iterations of the *Auburn University and the United Nations Sustainable Development Goals* report, authors may implement new strategies to make the report more detailed, thorough, and encompassing. Report authors will design a weight system for each category to improve the rigor of the report’s statistical analysis. Report authors will also expand representation of the sample by partnering with leaders of key Auburn University offices to collect more comprehensive information. The AASHE STARS data used for this first iteration of the *Auburn University and the United Nations Sustainable Development Goals* report describe mostly academic activities, detailing Auburn University’s engagement with SDGs through teaching and research but not outreach. The data collected by Auburn University personnel for the AASHE STARS report focus heavily on the environmental pillar of sustainability, resulting in a skewed data set. Report authors and collaborators will continue to pursue ways to develop the report to encompass all pillars of sustainability, all SDGs, and all Auburn University activities more fully.

As Auburn University continues to develop its support of the UN SDGs, there are tangible ways to increase awareness, strengthen engagement, and promote collaboration for the SDGs. There remain abundant opportunities for Auburn University to further establish itself as a university known globally for its forward thinking, orientation toward service, and leadership in the movement for a more sustainable future for all.

# 1 No Poverty

Poverty has many causes, including unemployment, social exclusion, and high vulnerability to diseases, disasters, and other phenomena.<sup>7</sup> Globally, while real gross domestic products and labor productivity have increased, 731 million people, 9.4% of the global population, still live on less than \$2.00 a day.<sup>8</sup> The UN says that ending poverty in all its forms will require increased social protection, greater employment opportunities, and innovative policy benefitting the world's poor.<sup>7</sup> Auburn University engages with Goal 1 to a lesser degree than most other SDGs. Goal 1 is best represented in Auburn University's course offerings, with at least 11 courses offered that relate to the issue of poverty. As Auburn University works to increase quality of life for people both near and far, per the mission of Auburn University, poverty will be a critical issue to address.

11

courses

1

major

1

minor

1

graduate  
program

3

departments  
conducting  
research

1

institute

2

student  
organizations

# Truman Pierce Institute

Photo courtesy of Kara Coleman



The College of Education's Truman Pierce Institute has organized poverty simulations for area schools, College of Education faculty and students, and community leaders. Understanding the day-to-day reality of poverty is important for everyone involved in combatting poverty. Poverty simulations are a tool to help citizens begin to understand what life is like with a shortage of resources and an abundance of stress. The simulation enables participants to view poverty from different perspectives and to discuss the potential for change within local communities. It is designed to sensitize those who frequently work with low-income families and create a broader awareness among policymakers and community leaders.

# MS in Rural Sociology

Photo courtesy of Rural Sociology Group



The MS in Rural Sociology in the College of Agriculture focuses on equipping students with the scientific and technical skills necessary to evaluate the challenges and the opportunities found within rural communities. Rural sociology research often addresses issues related to social and economic issues of race, extraction, resource dependency, land loss, land ownership, and resource ownership. It also addresses issues related to the food system, as agriculture is a key element of rural economies. The field of rural sociology is increasingly concerned with climate change-related impacts on rural economies. On the international level, rural sociologists address issues in international development and global poverty.<sup>9</sup>

# ONE Campus

Photo courtesy of Skylar Biedenbarn



ONE Campus is a segment of the ONE Campaign focused on creating change by mobilizing college students across the country. Students learn about extreme global poverty, campaign on campus, and advocate for policies at the national level. Through action-oriented initiatives, ONE student leaders urge political leaders to take action against extreme poverty and support programs that create a sustainable future in the developing world. Members of Auburn University's chapter have fought against extreme poverty through volunteering at letter-writing booths at Lollapalooza and Rockweave music festivals, delivering letters to state officials, and lobbying on Capitol Hill in D.C.

# 2 Zero Hunger

Zero hunger means eradicating not only starvation, but food insecurity and malnourishment.<sup>10</sup> The UN also includes sustainable agriculture as a priority for achieving zero hunger by 2030.<sup>10</sup> In addition to the challenge of feeding 800 million hungry people worldwide, the challenge of feeding a global population of 9 billion by 2050 makes Goal 2 an urgent matter.<sup>10</sup> Auburn University moderately engages with Goal 2, mostly through research. From 2016 to 2018, researchers at Auburn University engaged in no less than 15 research projects oriented toward eradicating hunger. Adequate food is critical to maintaining a sound mind, a sound body, and a spirit that is not afraid.<sup>11</sup> Having a variety of nutritious food to eat is a basic physiological need that must be met to actualize a quality life for all people, the central mission of Auburn University.<sup>6</sup>

5

**courses**

5

**majors**

2

**minors**

15

**departments  
conducting  
research**

1

**institute**

3

**student  
organizations**

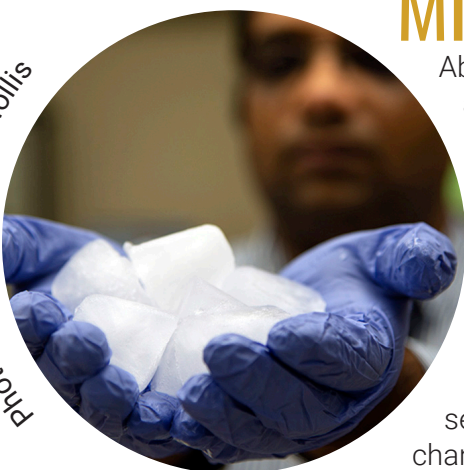
Photo courtesy of Hunger Solutions Institutes



## Hunger Solutions Institute

A foundational principle of the College of Human Sciences' HSI is that hunger is a solvable problem, but only when the relevant knowledge from all academic disciplines is combined with strengths of all sectors. By creating multi-sector partnerships at the community, state, and global levels, HSI shares knowledge and best practices and leverages the power of collective action. HSI educates and mobilizes students to join in the fight against hunger, creates collaborative coalitions to address hunger, and convenes university leaders to prioritize food and nutrition security. HSI brings together experts and practitioners from all disciplines to collectively address hunger and malnutrition.<sup>12</sup>

Photo courtesy of Paul Hollis



## Minimizing Food Waste

About 40 percent of food produced in the U.S. is wasted at different stages of the farm-to-fork continuum, amounting to 133 billion pounds annually. This immense food waste occurs while millions of people go hungry. The College of Agriculture's Amit Morey researches innovative ways to reduce food waste and capture food being wasted to improve food security of people in the United States. Morey's development of "functional ice," a product for storage and transportation, will increase food safety while reducing waste for the poultry and seafood industries. Morey's research could be a game-changer in the fight to minimize food waste and ensure food security.<sup>13</sup>

Photo courtesy of Hunger Solutions Institutes



## Hunger Studies Minor

The College of Human Sciences has developed one of the only Hunger Studies minors in the country. Students representing every discipline apply their major studies in cross-disciplinary classes that interactively study and discuss how to solve hunger. Students examine hunger as a complex issue of sustainable human development. Topics include causes and consequences of U.S. and global hunger, as well as current responses and potential solutions. The minor helps students develop a skill set for global citizenship that includes opportunities for advocacy, leadership, and critical problem solving. Students also learn to apply critical thinking skills in addressing hunger as a multi-disciplinary, complex social issue.<sup>12</sup>



# 3 Good Health & Wellbeing

Goal 3 aims to improve health and wellbeing for people of all ages everywhere.<sup>14</sup> Good health and wellbeing include decreasing maternal and child mortality rates, increasing vaccinations, continuing to address HIV/AIDS, and providing access to essential health services worldwide.<sup>14</sup> Goal 3 is one of the goals Auburn University engages with most, offering at least 75 courses and conducting no less than 52 research projects from 2016 to 2018 relating to good health and wellbeing. Goal 3 was the focus of more research projects undertaken from 2016-2018 than any other SDG. The United Nations emphasizes the importance of equitable access to healthcare for all people, regardless of income, race, ethnicity, religion, gender, or otherwise. Much of the health-related research and outreach conducted by Auburn University is focused on health equity. Auburn University has strong programs in health-related disciplines that encourage students and faculty to engage with health issues across the Auburn community, the state, the country, and the world. Promoting good health and wellbeing for all people enables everyone to achieve beyond their physiological needs and actualize a high quality of life.

75

**courses**

3

**majors**

6

**minors**

3

**graduate programs**

52

**departments conducting research**

5

**centers and institutes**

11

**student organizations**

# Public Health Minor

Photo courtesy of Dr. Stephanie Ostrowski



The field of public health covers a diverse workforce, including policy, health care, clean water, clean air, infectious disease, and the environment.<sup>15</sup> Offered by the College of Veterinary Medicine, the minor is offered to students in all majors and disciplines.<sup>16</sup> The curriculum provides students with a broad understanding of the diversity of the public health field, socio-economic factors that influence access to healthcare, and determinants of disease.<sup>16</sup> Emphases include obesity, diabetes, drug addiction, and infant mortality, which require policies, program funding, and sustained commitment at the local, national, and global levels.

# TigerCHAT

Photo courtesy of Donna Woods



The purpose of TigerCHAT (Community Health Awareness and Training) is to impact child health through a 12-week, school-based health education curriculum focused on nutrition, respiratory health, and mental health. The program serves 3rd to 6th grade students in three rural schools. TigerCHAT produced significant increases in nutritional knowledge and decreases in sedentary time. Enhanced education for rural children strengthens their health and wellbeing, thus empowering them to pursue a better future for themselves and their communities. The program is conducted by researchers and students in the School of Nursing.

# Boykin Community Clinic

Image courtesy of Harrison School of Pharmacy



Located in Northwest Auburn, the clinic offers health care services for Auburn residents who are uninsured, underinsured, or prefer proximal access to health care. The clinic allows students from diverse health care disciplines to collaborate to provide a broad range of wellness and primary health services. Administered by the Harrison School of Pharmacy, the clinic serves as an education and training center, offering a site for Auburn University students from multiple disciplines to engage with each other and learn how to treat patients from a variety of backgrounds in a real-life setting. Dr. Richard Hansen, Dean of the Harrison School of Pharmacy, says, "This clinic is perfectly aligned with our land grant mission of serving the people of Alabama."<sup>17</sup>

# 4 Quality Education

Quality education is inclusive of all learners and promotes lifelong learning.<sup>18</sup> Education holds the key to higher quality of life, not only because of education's ability to eradicate poverty but also because of the empowering nature of quality education.<sup>18</sup> Adequate infrastructure and teacher training are necessary for the actualization of quality education, both of which are obstacles to education in the developing world, rural areas, and impoverished communities.<sup>18</sup> Auburn University engages with Goal 4 to a lesser degree than other SDGs. Goal 4 is best represented in Auburn University's course offerings, with a minimum of 15 courses offered from 2016 to 2018 that focus on issues related to education accessibility, inclusion, and efficacy along the lifetime of diverse learners. Auburn University's strategic plan outlines Auburn University's goal to "increase access to educational opportunities and lifelong learning across the State, especially in underserved communities."<sup>3</sup> Auburn University has high outreach potential, which can be utilized for the promotion of quality education on many levels.

**15**

**courses**

**1**

**major**

**3**

**minors**

**2**

**graduate  
programs**

**8**

**departments  
conducting  
research**

**4**

**centers and  
institutes**



# Adult Education

Photo courtesy of Charles A. Meyer



The Adult Education (ADED) program in the College of Education serves Auburn University, the city of Auburn, the State of Alabama, and communities around the world by providing quality education that develops and prepares adults to build strong communities and solve everyday problems. ADED students represent academia, individual communities, and industry. They seek to improve the world around them through increased innovation, improved economic sustainability, and a more equitable society. Program faculty and staff work to build partnerships, lead in community improvement, and provide for the personal and collective empowerment of those whom they serve.

# Sustainability in Education

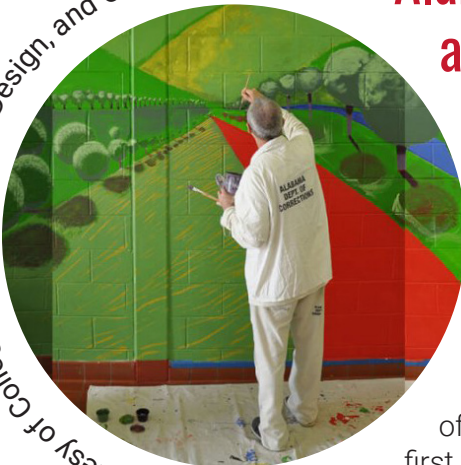
Photo courtesy of Office of Sustainability



In her book, *Leadership for Green Schools*, College of Education's Lisa Kensler provides aspiring and practicing leaders with the tools they need to facilitate the design, leadership, and management of greener, more sustainable schools. This publication uses illustrative examples of successful schools and leaders to show how establishing and managing green schools aligns with the work they are already doing to restore engaged learning within their schools and communities. *Leadership for Green Schools* helps education leadership immerse students in purposeful, meaningful learning for a sustainable, just future.<sup>19</sup>

# Alabama Prison Arts and Education Project

Photo courtesy of College of Architecture, Design, and Construction



The Alabama Prison Arts and Education Project (APAEP) provides quality educational opportunities for people incarcerated in Alabama prisons. Incarcerated individuals have the opportunity to participate in arts and science courses, and those that meet Auburn University's academic standards are able to earn college credit. APAEP has reached 3,650 students through 243 classes, ensuring quality educational opportunities that are meaningful and empowering. One APAEP student said of his experience, "What I remember clearest about that first APAEP class I took is... the light which appeared in some of my classmates' eyes... as they accomplished something meaningful for the first time in their lives."<sup>20</sup> APAEP is housed in the College of Architecture, Design, and Construction.

# 5 Gender Equality

Because women and girls represent half the world's population, they represent half the world's potential; but gender inequality stagnates this potential for progress.<sup>21</sup> Gender equality encompasses women's empowerment, women's rights, and proper representation of women in leadership.<sup>21</sup> Goal 5 is present at Auburn University to a lesser degree than most other SDGs. Auburn University is engaged with Goal 5 mostly through course offerings, with no fewer than 21 courses offered from 2016 to 2018 that were related to women's empowerment and equality. Women make up 49% of Auburn University's population, 51.6% of Alabama's population are women, and 50.8% of the US population are women as of 2010.<sup>22, 23, 24</sup> Because Auburn University's mission is to improve the lives of the people of Alabama, the nation, and the world, women's empowerment, leadership, employment, representation, and rights must be central to Auburn University's activities.<sup>6</sup>

21

courses

3

minors

1

department  
conducting  
research

3

centers and  
institutes

9

student  
organizations

Image courtesy of United Nations System Staff College



## POLI 3720: Women in Global Politics

The purpose of POLI 3720, offered through the College of Liberal Arts, is to introduce students to ways gender factors into studies of global politics. Topics include research on women; both formal and informal political institutions; women in violent conflict; gender and development; and comparative public policies regarding education, health, and work. Through lectures and informed discussions, the course explores how politics and power are gendered. By understanding the role of gender in politics and global barriers to women in leadership and society, these challenges can be addressed to enable women to enter into leadership, empower other women, and move toward a more equitable society for all.

Photo courtesy of Office of Inclusion and Diversity



## Women's Initiatives

Women's Initiatives, overseen by the Office of Inclusion and Diversity, represent and support all Auburn University women, including faculty, staff, students, and administrative and professional personnel by addressing issues that affect personal well-being and professional needs of women across campus. Some of the programs housed within Women's Initiatives include the Women's Center, the Women in Science and Engineering (WISE) Institute, the Pathways to Full Professor and Beyond program, and the Women's Leadership Conference. Women's Initiatives promote gender equality by guiding efforts to facilitate the recruitment, hiring, retention, and professional development of women.<sup>25</sup>

Photo courtesy of Chris Anthony



## Women in Computing

In her paper, "Speaking Truth to Power: Exploring the Intersectional Experiences of Black Women in Computing," Samuel Ginn College of Engineering's Jakita Thomas explores the unrealistic expectations from others, isolation, and gendered racism experienced by 11 black women in computing. Thomas's research found that, despite the obstacles confronting these women, they persisted in the field of computing. By identifying the factors that encouraged these women to persist in their field, Thomas's work will help encourage and retain talented people from underrepresented groups in computing.<sup>26</sup>

# 6 Clean Water & Sanitation

Half the world's population experiences water scarcity and shortages for at least one month out of the year.<sup>27</sup> Water is essential for sanitation and hygiene, not only for staying hydrated.<sup>27</sup> Lack of access to safely managed drinking and bathing water as well as pollution in waterways leads to the spread of diseases that cause the death of 800 children every day.<sup>27</sup> Auburn University is moderately engaged with Goal 6 across teaching, research, outreach, and student involvement. Goal 6 is best represented in Auburn University's course offerings, with at least 52 courses offered from 2016 to 2018 that related to issues of clean water and sanitation. Proper water management enables better food production management, energy production management, decent work, and economic growth, ecosystem preservation, biodiversity maintenance, and climate change action; all of which are issues that concern Auburn University because of Auburn University's global perspective and dedication to selfless service.<sup>6,27</sup>

52

**courses**

5

**majors**

4

**minors**

1

**graduate  
program**

20

**departments  
conducting  
research**

1

**center**

2

**student  
organizations**



# Students for Clean Water

Photo courtesy of Lindsey Dull



Students for Clean Water exists to raise awareness and funds to eradicate the global water crisis through education, awareness, and fundraising. The funds raised by Students for Clean Water benefit Neverthirst, an international ministry bringing clean water to those who need it, in addition to Auburn-area and nationwide charities related to clean water. Students for Clean Water's fundraising events include the Carry the Jerry 5k, the H2Bowl bowling tournament, benefit nights and concerts, and annual Water Week.<sup>28</sup> Each of these events is open to all Auburn students and surrounding community members.

# Wastewater Reuse in India

Photo courtesy of Dr. Kelly Alley



Dr. Kelly D. Alley, an anthropologist in the College of Liberal Arts, explores successful wastewater reuse in India in her article "Parameters of Successful Wastewater Reuse in Urban India." Water is essential for agriculture, industry, and human consumption in urban India. However, over the next half century, water availability during the dry season will continue to decline. Alley's research examines the key parameters that enable successful wastewater reuse through four case studies. Alley's research aims to increase the availability of water during the dry season in order to preserve northern India's people, agriculture, and industry.<sup>29</sup>

# Watershed Science Minor

Photo courtesy of Dr. Chris Anderson



The Watershed Science and Management minor, administered by the School of Forestry and Wildlife Sciences, involves managing the availability, quantity, and quality of water. Many metropolitan areas and smaller cities rely on forested watersheds to yield high-quality drinking water supplies for their population. This minor supports well-trained and dedicated professionals that are knowledgeable in hydrology, climate, and water sciences. These professionals are needed to sustain our water supplies and ensure that this commodity is available to the United States and the world's growing populations. The minor requires students to take courses that emphasize various aspects of watershed and landscape management and their effects on sustainable water quality and supply.

# 7 Affordable & Clean Energy

Access to energy that is clean, affordable, reliable, and sustainable is essential to reduce poverty, ensure good health and wellbeing, take action against climate change, develop economies, and more.<sup>30</sup> Well-established energy systems support business, agriculture, medicine, education, infrastructure, communication, and technology.<sup>30</sup> Clean energy is important not only for these large-scale sectors, but also for individuals, as lack of access to clean cooking fuels leads to four million premature deaths annually.<sup>30</sup> Clean energy is essential for sustaining life. Auburn University is moderately engaged with Goal 7 across teaching, research, outreach, and student involvement. Engagement with Goal 7 is best represented by no fewer than 18 departments conducting research from 2016 to 2018. Because clean energy is a catalyst for progress for so many other SDGs, addressing Goal 7 can potentially advance many other SDGs. Effectively approaching Goal 7 enables Auburn University to work toward many SDGs at once, magnifying Auburn University's reach and amplifying its positive impact.

15

**courses**

1

**major**

2

**minors**

2

**graduate programs**

18

**departments conducting research**

2

**student organizations**

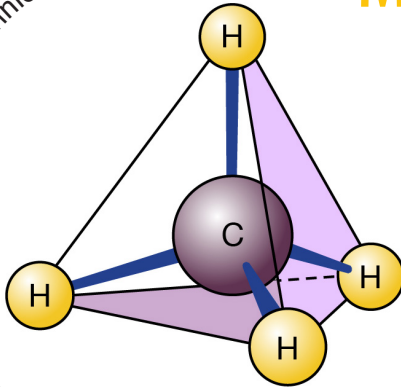
Photo courtesy of Crop, Soil, and Environmental Science Department



## CSES 5400: Bioenergy and the Environment

CSES 5400/6400: Bioenergy and the Environment, offered through the College of Agriculture, focuses on teaching students the role of bioenergy in reducing the environmental problems related to the use of fossil fuels and addressing declining rural economies. The class summarizes the impacts of fossil fuel use on the environment and human populations with focuses on identifying bioenergy crop species and agricultural practices used in their production. Graduate students research new crops that could be used as bioenergy crops in the US or other parts of the world.

Image courtesy of Encyclopedia Britannica



## Mitigating Methane

Methane is an important biofuel, the main component of natural gas, and a potent greenhouse gas. Therefore, a better understanding of how nature makes this energy-rich and relatively inert gas may lead to the development of strategies for the production and/or conversion of natural gas as well as reduction of natural greenhouse gas emissions. Steven Mansoorabadi of the College of Science and Mathematics conducts research that could help mitigate sources of greenhouse gas emissions through the development of technologies for methane capture and conversion. This research could also help identify new targets for inhibitors of the formation of methane.

Photo courtesy of Alan R. Cook



## Solar Decathlon

The Solar Decathlon, sponsored by the United States Department of Energy, is an intercollegiate competition to design and operate a solar-powered house. Auburn University's team captures and recycles solar energy, while providing all of the comforts of a traditional southern home. AU's team of students and faculty come from Samuel Ginn College of Engineering and College of Architecture, Design, and Construction. During the decathlon, the team attempts to power a 550 square foot home, a home-based business, and an electric car using only energy from the sun. Over 100 students participate in the design and construction of the solar home.<sup>31</sup>

# 8

## Decent Work & Economic Growth

Inclusion, sustainability, and employment for all are essential to economic growth and development.<sup>32</sup> Employment alone is not enough to ensure a good living.<sup>32</sup> Creating jobs that are gender inclusive, provide safe working conditions, and offer fair wages is critical for developing and sustaining economic growth and eliminating poverty.<sup>32</sup> Auburn University engages with Goal 8 moderately across teaching, research, outreach, and student involvement, and is best represented by Auburn University course offerings. A minimum of 20 courses related to decent work and economic growth were offered from 2016 to 2018. Auburn University's strategic plan outlines its intention to "strengthen engagement with both the public and private sectors in the State of Alabama to provide increased workforce development and economic growth."<sup>3</sup> Auburn University also aims to "elevate research and scholarly impact to... promote economic development in Alabama and beyond."<sup>3</sup> As a land grant institution, Auburn University has a responsibility to Alabama to be a driver of economic growth and development, but this ethic of service and development extends beyond the state of Alabama and into the world on a grander scale.

20

courses

2

minors

2

graduate programs

7

departments conducting research

2

centers and institutes



Photo courtesy of Tim Umphreys



## Rural and Community Development Minor

This minor equips students with the knowledge and skills important for administering both public-and private-sector human-relations programs that serve the residents of small towns and rural communities as well as special-needs populations, such as the elderly and disabled.<sup>33</sup> Students in the minor learn how to use community-based research to resolve environmental problems, make food and agriculture more sustainable, and pursue vibrant, equitable growth in rural places.

The minor is housed in the Department of Agricultural Economics and Rural Sociology, which is the foundation of the minor's focus on rural economic development and strengthening communities.<sup>34</sup>

## Graduate Minor in Economic Development



The Graduate Minor in Economic Development in the College of Education is designed to address the state's need for professional education and training in economic development. Academic economic development programs provide current and future professionals with the tools needed to lead successful community and regional economic development projects. Economic developers face a new environment characterized by an increasingly global economy and innovative partnerships between the public and private sectors. The minor features a strong academic orientation along with the opportunity to engage in practical experiences through special research projects.<sup>35</sup>

## Small Business Development Center

Photo courtesy of Brandon Mosely



The Small Business Development Center (SBDC), housed in the Harbert College of Business, is guided by a vision of growing Alabama's economy by empowering and assisting Alabama's robust small business community.<sup>36</sup>

Nearly half of Alabama's workforce is employed by small businesses.<sup>37</sup> Starting a new business can be difficult, handling cash flow, employees, and loans. The SBDC at Auburn University serves eight counties in the area, offering personal consultation concerning many aspects of small business development to encourage Alabama residents to build new businesses. Alabama residents have the opportunity to use the Center's expertise and advice concerning many aspects for starting a business.<sup>38</sup>

# 9

## Industry, Innovation, & Infrastructure

The United Nations defines infrastructure as roads, information and communication technologies, sanitation, electrical power, and water.<sup>39</sup> Goal 9 aims to build resilient, inclusive, sustainable, and innovative infrastructure.<sup>39</sup> Even basic infrastructure has the potential to spark economic growth, social development, and climate action.<sup>39</sup> Auburn University is highly engaged with Goal 9 across many categories of teaching, research, and outreach, with no less than 108 courses offered between 2016 and 2018. One of Auburn University's goals included in the 2019-2024 strategic plan describes Auburn University's intent to provide "practical and innovative solutions to social, economic and environmental issues."<sup>39</sup> Innovative infrastructure can deliver on all three of those fronts - society, economy, and environment - to achieve both Auburn University's goals and Goal 9.

108

**courses**

4

**majors**

4

**minors**

4

**graduate  
program**

28

**departments  
conducting  
research**

1

**center**

2

**student  
organizations**

# Engineers Without Borders

Photo courtesy of EWB-AU



The purpose of the Auburn University chapter of Engineers Without Borders (EWB) is to work with communities in developing countries to promote sustainable solutions to practical problems.<sup>40</sup> EWB aims to build a better world through engineering projects that empower communities to meet their basic human needs and equip leaders to solve the world's most pressing challenges.<sup>41</sup> EWB offers students hands-on learning experiences in conjunction with opportunities for service. While EWB conducts engineering projects, the organization is open to students of all majors. EWB teams work in Alabama, Bolivia, and Rwanda, developing sustainable solutions locally and globally.

# Environmental Design

Photo courtesy of Magdalena Garmaz



The College of Architecture, Design, and Construction's Environmental Design (ENVD) program focuses on the interconnected nature of all design and construction disciplines. Many courses provide students with the opportunity to initiate and complete a project focusing on community engagement and utilizing integration of research and collaborative methods. Students have the opportunity to enhance their education with skills in design and design thinking that foster innovation and entrepreneurship. Students who acquire an ENVD degree are adaptable in the real world, possess the ability to approach issues from many different angles, and offer innovative, constructive, and effective human-centric problem-solving methods in the built environment.

# National Center for Asphalt Technology

Photo courtesy of National Center for Asphalt Technology



College of Engineering's NCAT is focused on evaluating and developing new technologies that make roads smoother, quieter, safer, longer lasting, and more economical. NCAT's research centerpiece is a high-speed, full-scale accelerated asphalt pavement testing facility. NCAT's research findings are used to improve materials, tests, specifications, and design policies. Agencies use this research to preserve their roadway networks and maximize their budgets. NCAT is committed to its mission of providing innovative, relevant, implementable research, technology development, and education that advances safe and economically sustainable asphalt pavements.<sup>42</sup>

# 10

## Reduced Inequalities

Sustainable development requires reduced inequalities based on income, age, sex, gender, disability, sexual orientation, race, ethnicity, and religion, not only within countries but also between countries. Inequality leads to crime, disease, and environmental degradation because it threatens long-term social and economic development.<sup>43</sup> Auburn University is highly engaged with Goal 10 across a variety of teaching, research, outreach, and student involvement categories. Auburn University's involvement with Goal 10 is especially well-represented through research and student involvement. Goal 10 has the most student organizations oriented toward it than any other SDG at Auburn University, indicating that Auburn University's student body is invested in reducing inequalities. Auburn University seeks to better reflect the diversity of the world beyond the AU campus.<sup>3</sup> Because of Auburn University's mission as a land grant institution - "improving the lives of the people of Alabama, the nation, and the world."<sup>6</sup> - equality must be central to Auburn University's activities.

68

courses

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major

6

minors

4

graduate  
programs

38

departments  
conducting  
research

1

institute

15

student  
organizations



Photo courtesy of Office of Inclusion and Diversity



## Student Excellence Programs

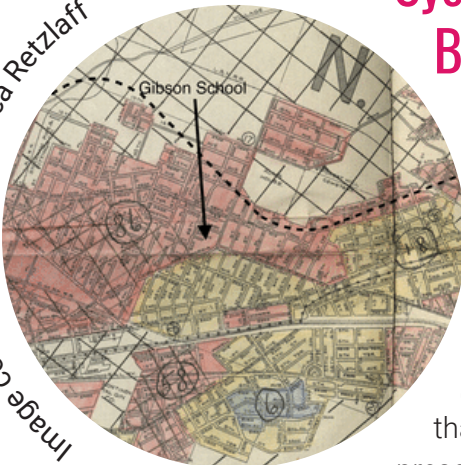
Student Excellence Programs (SEPs), overseen by the Office of Inclusion and Diversity, foster an inclusive academic environment for prospective and current students. SEPs focus on recruiting and retaining underrepresented students from diverse backgrounds. Through SEPs, underrepresented students are provided with information about financial aid, scholarships and fellowships, careers, and other success strategies. SEPs aim to bridge the gap between international and domestic students and inform underrepresented students about resources to help them succeed and excel at Auburn University. SEPs include Tiger Retreat, War Eagle Scholars Day, Academic Excellence 3.0 Ceremony, and Diversity Student Ambassadors.<sup>44</sup>

## Health Equity Research Lab



Health disparities are systematic group differences in health indicators or health outcomes that are the result of past or present social injustice. The mission of the Health Equity Research Lab is to conduct cutting edge health disparities research and provide related training opportunities for students and scholars. The lab examines mechanisms for socioeconomic and racial disparities in health and health behaviors across the life span and to make clear how these mechanisms—and the overall magnitude of inequalities—are shifting in contemporary societies.<sup>45</sup> The Health Equity Research Lab is housed in the College of Human Sciences.

Image courtesy of Dr. Rebecca Retzlaff



## Systemic Inequality in Birmingham, Alabama

College of Liberal Arts' Dr. Rebecca Retzlaff studies urban planning history and law to better understand the systemic inequality prevalent in cities in the United States. Her article, "Connecting Public School Segregation with Urban Renewal and Interstate Highway Planning: The Case of Birmingham, Alabama," analyzes the connection between public school segregation, Urban Renewal, and interstate highway construction in Birmingham, Alabama. The article argues that interstate highways and Urban Renewal were used to preserve segregation.<sup>46</sup> Dr. Retzlaff's research demonstrates how policies from decades ago can still perpetuate inequalities even today.

# 11 Sustainable Cities & Communities

As the world becomes progressively more urbanized, making cities more inclusive, safe, resilient, and sustainable is becoming increasingly critical.<sup>47</sup> Cities and metropolitan areas are powerhouses of economic growth, but they are also contributors to carbon emissions and users of massive amounts of resources.<sup>47</sup> In addition to pollution and resource use, cities and metropolitan areas also present problems of inequality, with slums and inadequate housing plaguing large urban populations.<sup>47</sup> Auburn University is highly engaged with Goal 11 in many ways through teaching, research, and outreach. From 2016-2018, Auburn University offered at least 107 courses oriented toward Goal 11. As Auburn University continues to build its reputation as an innovative institution with a global perspective, it is important that Auburn University continues to contribute positively to the world's increasingly urban society.

107

**courses**

1

**major**

7

**minors**

1

**graduate programs**

17

**departments conducting research**

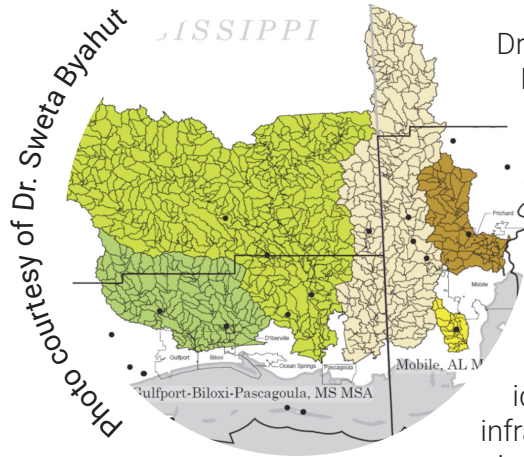
3

**centers and institutes**

2

**student organizations**

## Green Infrastructure & Flood Mitigation



Drs. Jeffrey LaMondia of the College of Engineering, Sweta Byahut of the College of Liberal Arts, and Professor Charlene LeBleu of the College of Architecture, Design, and Construction have embarked on a multi-year research project that aims to determine the impact of landscape patterns on stormwater runoff. In order to minimize ecosystem degradation and flood exacerbation, some local governments have adopted “green infrastructure” plans and strategies to conserve and protect their natural resources. This research identifies communities that have engaged in green infrastructure planning in the Mississippi-Alabama coastal region, identifies best practices among those communities, and pinpoints landscape patterns that should be protected.

## Master of Community Planning



Community Planning is concerned with the use of land, protection of the environment, public welfare, the design of public spaces and infrastructure, and the economy. Auburn University’s Master of Community Planning is a professionally oriented master’s degree program in which students work with clients on real-world planning projects in almost every class.<sup>48</sup> Through working on these projects, students learn to help diverse and complex communities create and implement plans that improve and protect their quality-of-life, culture, resource base, built environment, natural environment, and economic vitality.<sup>49</sup> AU’s Master of Community Planning is offered through the College of Liberal Arts.

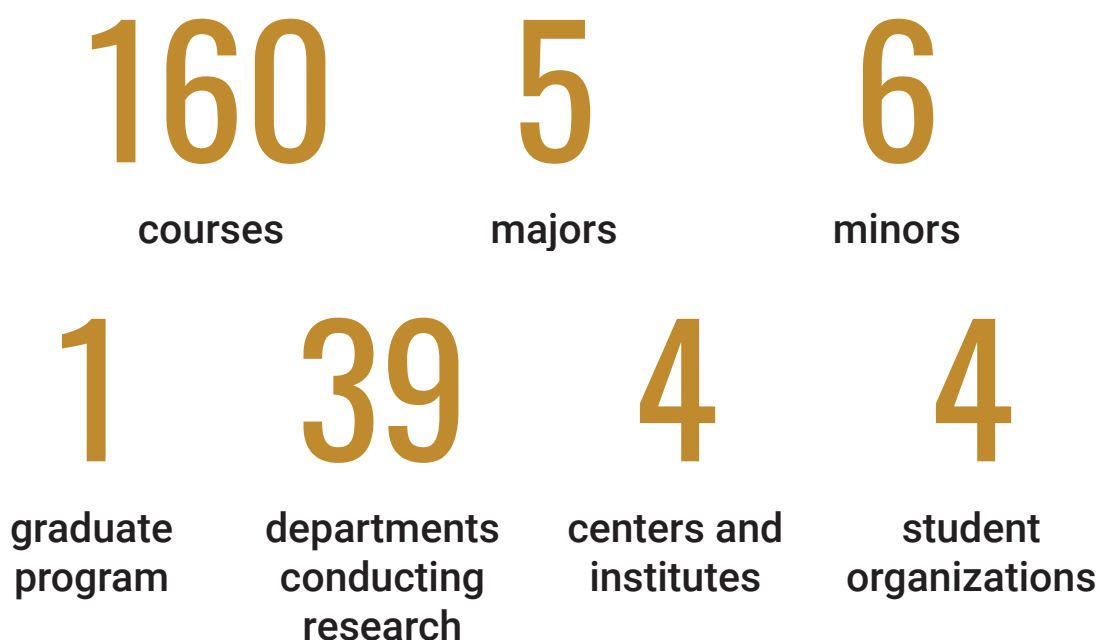
## Rural Studio



Rural Studio is an off-campus design-build program in the College of Architecture, Design, and Construction. Rural Studio emphasizes place, beauty, economy, and purpose, from education to research to outreach. The Rural Studio philosophy suggests that everyone, both rich and poor, deserves the benefit of good design. The studio is known for its ethos of recycling, reusing, and remaking. To date, Rural Studio has built more than 200 projects. “We encourage aspiring young architects to address the ethical responsibility for the social, political, and environmental consequences of what they design and build,” says Andrew Freear, Rural Studio director.<sup>50</sup>

# 12 Responsible Consumption & Production

Future economic and social progress depend on sustainable production and consumption patterns.<sup>51</sup> Responsible consumption and production address issues related to food, fuel, over-extraction of resources, social and ethical impacts of product manufacturing, and all other issues involving waste and excessive resource use.<sup>51</sup> Auburn University is highly engaged with Goal 12, especially through course offerings. There were no fewer than 160 courses offered from 2016-2018 relating to responsible consumption and production. Auburn University also offers five undergraduate degree programs related to Goal 12; the most majors related to any of the SDGs. As the world navigates a future of waste elimination, efficient systems, and resource depletion, Auburn University has the potential to be a leader in the charge to navigate these realities sustainably.





## Sustainable Biomaterials and Packaging Major



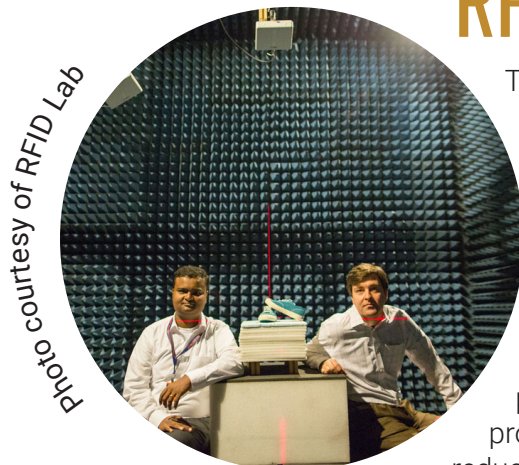
Environmental concerns and evolving technologies are moving companies toward the use of sustainable forest biomaterial for everything from packaging, cosmetics, and automobiles to appliances, pharmaceuticals, and commercial construction. This degree program, offered through the School of Forestry and Wildlife Sciences, is aimed at providing students with knowledge, expertise, and hands-on experience to prepare them for careers in packaging manufacturing, product development and marketing, biomaterials research, supply chain management, and distribution and logistics.<sup>52</sup>

## SCMN 4620: Sustainable Supply Chain Management



SCMN 4620, offered through the Harbert College of Business, addresses how a company must strategically incorporate environmental, social, and economic dimensions of sustainability into its supply chain decision-making. Pressure from customers, policymakers and non-governmental organizations compels companies to address the environmental footprint of their operations and the social impact they have on local communities. Specific topics include ethical sourcing, risk management, transparency, innovation, resource scarcity, waste reduction, carbon emissions, and human rights issues. SCMN 4620 exposes students to the UN SDGs in addition to principles of supply chain management.

## RFID Lab



The Radio Frequency Identification (RFID) Lab, housed in the College of Business, works with industry partners to increase effectiveness of RFID technologies to improve serialized data sharing within the retail industry. The RFID Lab is a research institute focusing on the business case and technical implementation of RFID and other emerging technologies in retail, aviation, supply chain management, and manufacturing. RFID Lab has had success in multiple public-private partnerships, including Amazon.com. RFID technology promotes responsible consumption and production by reducing counterfeit items within the retail industry, which promotes ethical consumption, and improving the accuracy of on-hand inventory at retail stores, which will reduce the instances of excess product and unnecessary shipping.

# 13 Climate Action

Taking urgent action against climate change and its impacts is essential to building a sustainable world for everyone.<sup>53</sup> Severe weather and rising sea levels affect everyone, but marginalized people groups and the poor are disproportionately affected.<sup>53</sup> If climate change is left unchecked, the consequences will be ecosystem destruction, food and water scarcity, and conflict.<sup>53</sup> Auburn University is moderately engaged with Goal 13 across teaching, research, outreach, and student involvement. Most of Auburn University's engagement with Goal 13 is through its course offerings, with no less than 47 courses offered from 2016-2018. Auburn University's mission is to improve the lives of people in its community, state, nation, and world through education, research, and service.<sup>6</sup> Because the climate crisis is a global issue, any action to remedy the effects of climate change has a global impact, which suits Auburn University's mission on a local and global scale. Climate action is an effective and lasting way to have the positive impact Auburn University desires on every scale.

47

**courses**

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**majors**

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**minors**

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**graduate  
program**

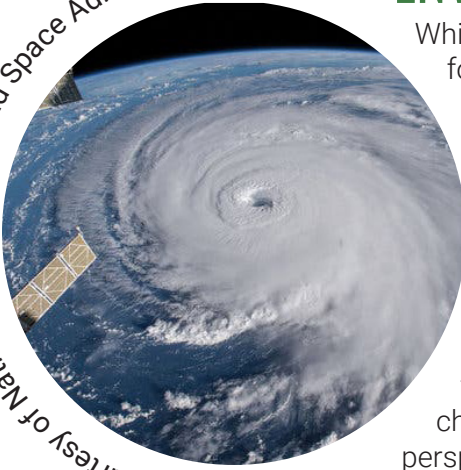
32

**departments  
conducting  
research**

2

**student  
organizations**

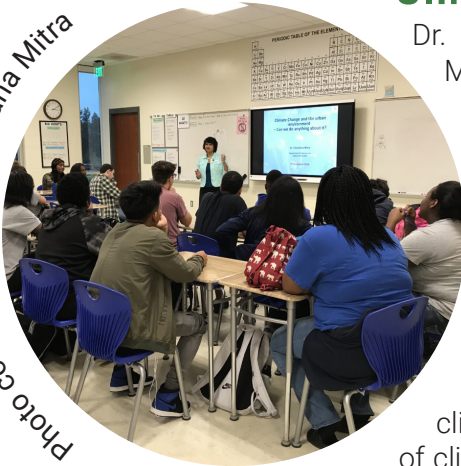
Photo courtesy of National Aeronautics and Space Administration



## ENVI 6100: Climate Change Impacts

While many climate-related courses focus solely on the forces that drive climate change, ENVI 6100 students learn about these driving forces for the purpose of understanding the ultimate consequences of climate change. The class addresses the changing climate and applies these changes to different ecosystems, inquiring about how climate change impacts flora, fauna, and diverse biospheres. ENVI 6100 assesses the potential future impacts of climate change by looking at past and present climate crisis consequences. The focuses of ENVI 6100 are the consequences of climate change rather than climate change itself, giving students perspective on why climate action is an urgent matter. ENVI 6100 is offered through the College of Agriculture.

Photo courtesy of Dr. Chandana Mitra



## Climate Awareness for Young People

Dr. Chandana Mitra of the College of Sciences and Mathematics visited Auburn High School to educate and create awareness among high school students about climate crises and their impacts. Dr. Mitra and a graduate student in the Department of Geosciences presented on climate change and the impacts of urban growth on local climate, including the Urban Heat Island effect. The high school environmental science class engaged in hands-on experiences by taking measurements with infrared thermometers and hydrometers. Educating high school students about climate change is important for raising the next generation of climate actioners and increasing awareness among young people's peers and families.

Photo courtesy of School of Forestry and Wildlife Sciences



## Human Contributions to Climate Change

In his paper, "The terrestrial biosphere as a net source of greenhouse gases to the atmosphere," School of Forestry and Wildlife Sciences's Dr. Hanqin Tian and his colleagues examined the balance of carbon dioxide, methane, and nitrous oxide in the land biosphere and the human contribution of these gases to the biosphere. The terrestrial biosphere sequesters atmospheric carbon dioxide, thus mitigating climate change. But the human transformation of the land biosphere has caused a large amount of methane and nitrous oxide emissions. Dr. Tian's research reveals for the first time that human activities have transformed the land biosphere to act as a contributor to climate change.<sup>54</sup>

# 14

## Life Below Water

Oceans provide key natural resources, including food, medicines, biofuels, climate moderation, and carbon storage.<sup>55</sup> Because oceans are so essential to life on earth, the conservation and sustainable use of the world's oceans, seas, and marine resources is vital to protecting all of Earth's life forms.<sup>55</sup> Maintaining healthy marine systems supports climate mitigation, economic development, good health and wellbeing, and biodiversity.<sup>55</sup> Auburn University is moderately engaged with Goal 14 across teaching, research, outreach, and student involvement. Auburn University is engaged most with Goal 14 through course offerings, teaching a minimum of 79 courses throughout the three-year span from 2016-2018. Auburn University is a sea-grant institution in addition to being a land-grant institution. Because Auburn University's mission is to serve the state of Alabama, and because Alabama has a strong coastal community providing income and livelihood for thousands of Alabama residents, the health of marine systems directly involves Auburn University.<sup>6</sup> Additionally, Auburn University's global perspective and desire to achieve world renown make global marine conservation, preservation, and mitigation relevant concerns.<sup>6,3</sup>

79

courses

4

majors

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minor

2

graduate  
programs

20

departments  
conducting  
research

4

student  
organizations



Photo courtesy of the Chadwick Laboratory



## Marine Biology Major

The Marine Biology Major, housed in the College of Sciences and Mathematics, serves to provide expert training for its students and covers a full range of topics including coral reefs, coastal marshes, the Everglades, marine pollution, chemical and coastal wetlands ecology, and climate change. Students in the program act as ambassadors and have participated in educational opportunities to explain the importance of marine systems, the impact of plastics in the environment, the ongoing impacts of generalized global pollution on coastal regions, and the impact of plastics and fossil fuels on the atmosphere, oceans, climate, and humans. The program provides experiential learning and research opportunities that empower students to protect the world's oceans.

Photo Courtesy of The Daily Monitor



## Impacts on Aquaculture in Uganda

College of Agriculture's Shamim Naigaga, under the direction of Dr. Claude Boyd, explored aquaculture in Uganda in her dissertation, "Potential Influence of Climate Variations, Water Quality and Soil Quality on Uganda's Aquaculture." Expansion of the aquaculture sector is needed to increase aquatic protein for human consumption, but fisheries production from lakes and other natural waters in Uganda is declining. This study was conducted to improve understanding of limitations imposed on aquaculture by environmental factors of climate, soils, and water quality in Uganda.<sup>56</sup> Ugandans can implement practices to mitigate these limitations and maximize sustainable aquaculture production to ensure a stable protein source for human consumption.

Logo courtesy of Alabama Water Watch



## Alabama Water Watch

Alabama Water Watch (AWW), part of Auburn University Water Resource Center, is a citizen volunteer water quality monitoring program covering all of the major river basins of the state. The mission of AWW is to improve both water quality and water policy through citizen monitoring and action. AWW uses EPA-approved monitoring plans with a community-based approach to train citizens to monitor conditions and trends of their local waterbodies. AWW helps volunteers collect, analyze, and understand their data to make positive impacts. The AWW vision is to have a citizen monitor on every stream, river, lake, and coast in Alabama. AWW aims to foster the development of statewide water quality monitoring by educating, training, and empowering citizens.<sup>57</sup>

# 15

## Life on Land

To protect the air we breathe, the water we drink, and the food we eat, sustainably managing forests, desertification, land degradation, and biodiversity loss is crucial.<sup>58</sup> Biodiversity is essential for climate change adaptation and natural disaster risk reduction, but biodiversity is decreasing more rapidly than any other time in human history.<sup>58</sup> Auburn University is highly engaged with Goal 15 across a variety of categories; most notably through course offerings, with at least 141 courses offered from 2016-2018. Auburn University is a land-grant institution with strong teaching, research, outreach, and student involvement with forestry, agriculture, horticulture, and more. Auburn University is a direct stakeholder in local, statewide, national, and global land health because of the investments the university has made in forests, farming, soil health, and ecosystems at these levels, making Goal 15 a direct concern of this institution.

141

**courses**

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**majors**

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**minor**

7

**graduate  
programs**

31

**departments  
conducting  
research**

2

**centers and  
institutes**

5

**student  
organizations**



# Donald E. Davis Arboretum

Photo courtesy of Davis Arboretum



The Donald E. Davis Arboretum is a 13.5-acre botanic garden facility supported by the College of Sciences and Mathematics. It provides visitors with a place to enjoy a natural setting and experience the native plants and habitats of Alabama. The Arboretum functions as a plant museum and has at its core a living collection of scientifically ordered plants with provenance documentation. It functions as an outdoor classroom for university classes, local schools, and community groups. The primary purposes of the Arboretum are conservation, education, and research. The Arboretum also uniquely works to protect the campus' natural resource areas, which fulfills AU's sustainability objectives.<sup>59</sup>

# Wildlife Ecology & Management Major

Photo Courtesy of School of Forestry and Wildlife Sciences



The Wildlife Ecology and Management degree program in the School of Forestry and Wildlife Sciences provides a broad biological education that is specifically designed to meet the needs of students interested in careers involving wildlife ecology, management, and conservation. Students are exposed to field experiences through outdoor labs and work opportunities and are trained to address issues involving free-ranging wildlife populations.<sup>60</sup> People with wildlife science backgrounds are needed to work in overseeing our natural resources, managing habitats for rare or endangered species, supervising game species for sustainable harvest, and ensuring everyone observes sustainable practices that keep our natural resources available for all to enjoy.<sup>61</sup>

# The Old Rotation

Photo courtesy of Joshua Fisher



The "Old Rotation," managed by the College of Agriculture, is the oldest continuous cotton experiment in the world. The "Old Rotation" was one of the first experiments to demonstrate and document the value of rotating cotton with other crops and including nitrogen-restoring legumes in the system. Information from this test provided evidence that rotation with legumes could sustain and actually improve yields of cotton and corn in Alabama soils. This experiment has supported research on productivity, soil and environmental quality, and sustainable agriculture.<sup>62</sup> This experiment demonstrates that sustainability has been a fundamental element of Auburn University's teaching, research, and outreach from the beginning.

# 16 Peace, Justice, & Strong Institutions

Promoting peace, justice, and strong institutions means supporting inclusive societies; providing justice for all; and building effective, accountable institutions.<sup>63</sup> Advancing all other SDGs cannot be done without peace, justice, and strong institutions because fear, corruption, violence, oppression, and discrimination undermine all of the SDGs.<sup>63</sup> Auburn University moderately engages with Goal 16 across teaching, research, outreach, and student involvement. Course offerings are Auburn University's main method of engaging with Goal 16, providing no fewer than 34 courses related to promoting peace, justice, and strong institutions from 2016-2018. Auburn University's strategic plan highlights Auburn University's goal to "address society's most challenging issues."<sup>39</sup> Addressing society's most challenging issues will require engagement with institutions at all levels to make enduring, positive change that will reverberate throughout the community, state, nation, and world. Establishing peace and justice will involve all Auburn men and women, and Auburn University has the power to spark the spread of peace and justice in our institutions because of its scale and reach of influence.

34

courses

1

major

3

minors

3

graduate  
programs

4

departments  
conducting  
research

2

centers and  
institutes

2

student  
organizations

# Global Studies Major



Photo courtesy of Gabriela Hayes

The Global Studies in Human Sciences Major, housed in the College of Human Sciences, is designed to educate students on relevant global issues, the realities of globalization and how local and global issues are interconnected. The major draws on content relevant to human sciences, such as international nutrition, hunger and food insecurity, microlending and entrepreneurship, environmental sustainability, maternal and child health, education of women and girls, global markets, goods and services, humanitarian aid, and social policy.<sup>64</sup> Students are trained to activate their critical and design-thinking skills for positive global change and become true global citizens.



Photo courtesy of Alabama Department of Youth Services

# Juvenile Delinquency Lab

Juvenile Delinquency Lab is the result of a 20-year partnership between Alabama Department of Youth Services and AU's Department of Psychological Sciences. This partnership provides residential treatment services for adolescents adjudicated for illegal sexual behavior. The Lab collects data to inform individual treatment decisions for clients and provides information about the overall functioning of the treatment model in order to inform decision-making for the program. The success of the partnership speaks to the importance of this institutional model in bringing about client-centered results. All who are involved in this partnership are motivated by the results of the data showing mental health and behavioral improvements in the youth served.



Logo courtesy of Government and Economic Development Institute

# Government & Economic Development Institute

The mission of Government & Economic Development Institute (GEDI), part of Auburn University Outreach, is to promote improved government policy and management, civic engagement, economic prosperity, and improved quality of life for the State of Alabama and its communities. GEDI prioritizes enhancing local economic and leadership development in communities across the state and beyond. GEDI offers services in education, training, and professional development; community assistance, engagement, and consulting; and applied and policy research. The center develops entrepreneurs, businesses, and Alabama's local government sector through workshops and conferences.

# 17 Partnerships for the goals

Partnerships are indispensable assets to achieving the UN SDGs by 2030. The movement to create a more sustainable, more inclusive, healthier, and happier world for all involves everyone – governments, civil society, scientists, artists, activists, academics, and the private sector.<sup>65</sup> Everyone is in this together to ensure no one is left behind.<sup>65</sup> Auburn University engages with Goal 17 to a lesser degree than most other SDGs. Course offerings provide the most opportunity for engagement with Goal 17, with no less than 10 courses oriented toward partnerships from 2016-2018. Auburn University appreciates the power of collaboration, and aims to “[reach] across or [dissolve] intra-organizational boundaries” in order to establish innovative, positive, and enduring change.<sup>3</sup> Auburn University understands that maximizing its impact will require “deep and long-lasting partnerships that amplify and extend the positive societal change we seek.”<sup>3</sup> Partnerships are invaluable not only for Auburn University, but for institutions, organizations, disciplines, communities, states, and nations.

10

courses

1

minor

1

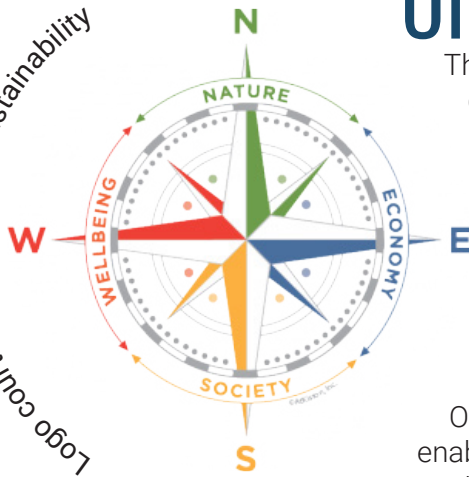
institute

4

student  
organizations



Logo courtesy of Office of Sustainability



# Office of Sustainability

The Office of Sustainability exists to create an ethic, culture, & practice of sustainability at Auburn in service to improving lives, communities, and natural systems in Alabama and beyond. To do this, the Office establishes partnerships across campus with stakeholders in academics, operations, campus life, administration, and the broader community. The Office’s partnerships aim to develop ways to embed sustainability into the university’s operations, instruction, research, and outreach functions. With a systems perspective, the Office weaves networks of collaboration that build capacity, enabling Auburn to accomplish so much more working together than could possibly be achieved alone.

Photo courtesy of Academic Sustainability Programs



# Sustainability Studies Minor

With a diverse selection of courses from colleges across the university, the interdisciplinary Minor in Sustainability Studies, offered by the College of Liberal Arts, gives students the opportunity to gain wide-ranging expertise and hands-on experience working on the most crucial issues in contemporary society. Sustainability Studies seeks to improve environmental health, social justice, economic development, and individual well-being through the integration of disciplinary perspectives from across the university. Sustainability students care about the world around them, on both a global and a local scale. Courses in the minor help them to identify, evaluate, and implement ways they can make a positive difference for themselves, their communities, and the world.<sup>67</sup>

Photo courtesy of Miranda Nobles



# Campus Dining Collaboration

A collaborative effort among the E.W. Shell Fisheries, the College of Agriculture’s Department of Horticulture, and the Food Systems Institute gives students a hands-on educational experience while providing Campus Dining with locally grown food to serve fresh meals. The project uses nitrate-rich fish waste from tilapia ponds to grow vegetables hydroponically for consumption in on-campus dining halls. The food is hyper-local, so it does not have to travel far and maintains its rich nutrient profile. This partnership maximizes efficiency, reduces waste, and offers an innovative way to combine student well-being with campus sustainability.<sup>67</sup>

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