



**College of Education and Human Development
Division of Special Education and disAbility Research**

Summer 2019

EDAT 527 D01: Assistive Technology for Independent Living and Employment
CRN: 41300, 3 – Credits

Instructor: Dr. Yoosun Chung	Meeting Dates: 5/20/2019 – 7/27/2019
Phone: (703) 988-3486 (text-relay-service)	Meeting Day(s): Net
E-Mail: ychung3@gmu.edu	Meeting Time(s): Asynchronous
Office Hours: by appointment	Meeting Location: Online
Office Location: Finley Building, 203B	Other Phone: N/A

****Note:** This syllabus may change according to class needs. Teacher Candidates/Students will be advised of any changes immediately through George Mason e-mail and/or through Blackboard.

Prerequisite(s): None

Co-requisite(s): None

Course Description

Provides an overview of assistive technology accommodations and public policy related to independent living for individuals with disabilities throughout their life span. Focuses on assistive technologies that support daily living tasks and workplace accommodations to improve the performance of daily living and work activities for individuals with disabilities. Offered by Graduate School of Education. May not be repeated for credit.

Advising Contact Information

Please make sure that you are being advised on a regular basis as to your status and progress through your program. Mason M.Ed. and Certificate teacher candidates/students should contact the Special Education Advising Office at (703) 993-3670 for assistance. All other teacher candidates/students should refer to their faculty advisor.

Course Instructional Method

EDAT 527 is an asynchronous online course. Using Blackboard, students are expected to complete assignments weekly and be engaged in course activities throughout the semester.

Course Delivery Method

Learning activities include the following:

1. Learning module lectures, discussion, and participation
2. Software and hardware demonstrations
3. Group and independent laboratory exploration activities
4. Direct AT service interactions
5. Class presentations

This course will be delivered online (76% or more) using an **asynchronous** format via Blackboard Learning Management system (LMS) housed in the MyMason portal. You will log in to the Blackboard (Bb) course site using your Mason email name (everything before @masonlive.gmu.edu) and email password. The course site will be available on the posted start date of the course.

Under no circumstances, may candidates/students participate in online class sessions (either by phone or Internet) while operating motor vehicles. Further, as expected in a face-to-face class meeting, such online participation requires undivided attention to course content and communication.

Technical Requirements

To participate in this course, students will need to satisfy the following technical requirements:

- High-speed Internet access with standard up-to-date browsers. To get a list of Blackboard's supported browsers see: https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support#supported-browsers

To get a list of supported operation systems on different devices see:

https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support#tested-devices-and-operating-systems

- Students must maintain consistent and reliable access to their GMU email and Blackboard, as these are the official methods of communication for this course.
- Students may be asked to create logins and passwords on supplemental websites and/or to download trial software to their computer or tablet as part of course requirements.
- The following software plug-ins for PCs and Macs, respectively, are available for free download:
 - Adobe Acrobat Reader: <https://get.adobe.com/reader/>
 - Windows Media Player: <https://support.microsoft.com/en-us/help/14209/get-windows-media-player>
 - Apple Quick Time Player: www.apple.com/quicktime/download/

Expectations

- Course Week:
Because asynchronous courses do not have a “fixed” meeting day, due dates for each module are specifically listed in the Course Schedule on this syllabus.
- Log-in Frequency:
Students must actively check the course Blackboard site and their GMU email for communications from the instructor, class discussions, and/or access to course materials **at least two times per week.**
- Participation:
Students are expected to actively engage in all course activities throughout the semester, which includes viewing all course materials, completing course activities and assignments, and participating in course discussions and group interactions.
- Technical Competence:
Students are expected to demonstrate competence in the use of all course technology. Students who are struggling with technical components of the course are expected to seek assistance from the instructor and/or College or University technical services.
- Technical Issues:
Students should anticipate some technical difficulties during the semester and should, therefore, budget their time accordingly. Late work will not be accepted based on individual technical issues.
- Workload:
Please be aware that this course is **not** self-paced. Students are expected to meet *specific deadlines* and *due dates* listed in the **Class Schedule** section of this syllabus. It is the student’s responsibility to keep track of the weekly course schedule of topics, readings, activities and assignments due.
- Instructor Support:
Students may schedule a one-on-one meeting to discuss course requirements, content or other course-related issues. Those unable to come to a Mason campus can meet with the instructor via telephone or web conference. Students should email the instructor to schedule a one-on-one session, including their preferred meeting method and suggested dates/times.
- Netiquette:
The course environment is a collaborative space. Experience shows that even an innocent remark typed in the online environment can be misconstrued. Students must always re-read their responses carefully before posting them, so as others do not consider them as personal offenses. *Be positive in your approach with others and diplomatic in selecting your words.* Remember that you are not competing with classmates, but sharing information and learning from others. All faculty are similarly expected to be respectful in all communications.
- Accommodations:
Online learners who require effective accommodations to insure accessibility must be registered with George Mason University Disability Services.

Learner Outcomes

Upon completion of this course, students will be able to:

1. Identify key public policy regulations within the Americans with Disabilities act (ADA) and the Rehabilitation Act.
2. Review existing functional activities of daily living (ADL) and workplace accommodation evaluation tools.
3. Locate resources and assistive technologies in areas of ADLs and workplace accommodations.
4. Identify potential independent living and workplace accommodation technologies within a given environment.
5. Conduct a customized training on how to use an ADL device or workplace accommodation for an individual with a disability, their family, employer, or other professional who works with individuals.

Professional Standards

This course is part of the George Mason University, Graduate School of Education (GSE), Assistive Technology Program. The Assistive Technology Program has developed program specific standards in accordance with CAEP requirements. The Assistive Technology Program Standards incorporate several Elements within the professional standards from the Council for Exceptional Children (CEC), while also expanding upon them to meet the specific needs related to assistive technology.

Upon Completion of this course, students will have met the following professional standards:

Standard 2: Knowledge and Skills

Candidate is knowledgeable of legislative mandates and governmental regulations related to technology and their implications for individuals with exceptional needs. Candidate can identify a range of funding sources and processes of acquisition of assistive technology devices and services. Candidate is knowledgeable of and demonstrates proficiency in use of a range of assistive technology tools. In conjunction, candidates possess a repertoire of evidence-based strategies to develop personalized supports for individuals with exceptional needs across environments, settings, and the life span. Candidates continuously broadens and deepens professional knowledge, and expands expertise with assistive technology tools and strategies.

Standard 4: Practical Experience

Candidate applies knowledge and skills to identify user needs and customize assistive technology tools and strategies that are meaningful and useful. Candidate provides customized assistive technology training services to individuals with exceptional needs, their families, and/or their community of support. Candidate develops and customizes individualized technology-based solutions to address exceptional needs.

*NOTE: CAEP Assessments (in many but not all courses) may address additional AT Program standards.

Required Textbooks

Duffy, M. A. (2016). Making you environment more livable: General principles. *Making life more livable: Simple adaptations for living at home after vision loss*. St. Louis: Elsevier Mosby.

Recommended Textbooks

American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author.

Required Resources

Students are required to have consistent and reliable access to a computer with a high-speed internet connection. Students are also expected to have consistent and reliable access to their GMU email and Blackboard, as these are the official methods of communication for this course. Students may be asked to create logins and passwords on supplemental websites and/or to download trial software to their computer or tablet as part of the course requirements.

Additional Readings

Additional readings are provided by the instructor, including research articles and links to vendor websites. All course materials are available on the Blackboard site.

JAN Accommodation Network: a service of the U.S. Department of Labor's Office of Disability Employment Policy. <http://askjan.org>

U.S. Equal Employment Opportunity Commission. Laws & Guidance: The ADA. Retrieved from <http://www.eeoc.gov>

Course Performance Evaluation

Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, Tk20, hard copy).

Tk20 Performance-Based Assessment Submission Requirement

It is critical for the special education program to collect data on how our students are meeting accreditation standards. Every teacher candidate/student registered for an EDSE course with a required Performance-based Assessment (PBA) is required to upload the PBA to Tk20 (regardless of whether a course is an elective, a one-time course or part of an undergraduate minor). A PBA is a specific assignment, presentation, or project that best demonstrates one or more CEC, InTASC or other standard connected to the course. A PBA is evaluated in two ways. The first is for a grade, based on the instructor's grading rubric. The second is for program accreditation purposes. Your instructor will provide directions as to how to upload the PBA to Tk20.

For EDAT 527, the required PBA is (NO ASSESSMENT REQUIRED FOR THIS COURSE). Please check to verify your ability to upload items to Tk20 before the PBA due date.

Assignments and/or Examinations

Performance-based Assessment (Tk20 submission required)

None

College Wide Common Assessment (TK20 submission required)

N/A

Performance-based Common Assignments (No Tk20 submission required)

Courses with multiple sections often require "common" assignments across sections to ensure consistency in instruction and learning. This course does not require the use of a common assignment(s). All course assignments are outlined in the *Other Assignments* section.

Other Assignments

Weekly Online Modules (40 points)

Students must access online class on Blackboard weekly and complete posted activities for all classes. Posted activities will include Internet search/research assignments, video exploration and viewing, community exploration, response tasks and construction activities. All weekly activities are due by Monday, 11:59pm.

Note: Some activities are required to interact with classmates. In this case, the original posting should be posted by Saturday, 11:59pm of that week. The responses to other classmates should be posted by Monday, 11:59pm of that week. Your participation score for a given week will be based on the timelessness, the quality of your postings to that discussion, and interactivity. You will find a detailed rubric on Blackboard.

Online Discussions

The **Online Discussion** is the heartbeat of this course. We will be sharing experiences, opinions, questions, etc. on the Discussions Board. To get the maximum point, **not only** you submit your original posting, **but also** you need to interact with at least one classmate during that week's assigned assignment. Posted messages should be significant - helping the discussion move forward. There are a variety of ways to do this, including:

- Providing concrete examples, perhaps from your own experience
- Describing possible consequences or implications
- Posing a clarifying question
- Suggesting a different perspective or interpretation
- Pulling in related information from other sources – books, articles, websites, other courses, etc.

ADL Device Comparison (10 points)

Students will produce a comparison report on three specific assistive devices used within a single ADL area among Hygiene, Toileting, Eating, Dressing Aids, Mobility Aids & Transportation. The report should identify unique features and functionalities needed within this ADL area and include in the comparison report:

- Description and purpose of the ADL area.
- Details on each specific device within the ADL (i.e., device name, cost, contact, description, features)
- Discussion comparing and contrasting the 3 devices with regard to individual features and functionalities

Environmental Workplace Review (20 points)

Students are to identify a workplace environment and conduct a review of existing and potential accommodations from the perspective of 3 disability areas. The review will begin with a photograph or other graphic display of the environment along with a listing of existing accommodations. Additional accommodations that could potentially be beneficial to the environment for supporting an employee in each of the disability areas will be identified. Students will prepare a detailed listing of these accommodations along with a brief rationale as to why each was selected.

Independent Living Device or Workplace Accommodation Instruction Project (30 points)

Students are required to create and implement an instructional plan for training the application of an independent living device or workplace accommodation. The purpose of the plan is to introduce the use of an accommodation to a potential user (i.e., individual with disability; their parent, other family member, employer; or a professional working with an individual with a disability). The designated accommodation may be either approved through a selection process or specifically assigned by the instructor. This plan itself should be submitted as a text document and include the following:

a. Accommodation Overview

Candidate provides a description of the assistive technology accommodation. The description should include the purpose of the accommodation, its features and functionality, and its vendor/contact information or on-line resource.

b. User Characteristics & Needs

Candidate provides a rationale for selecting the user/individual(s) for which they are designing the training. A listing of the user's prerequisite skills as well as the needs they have for potentially using the accommodation will be outlined. Consideration of diverse needs of both the user in training as well as those that make be affected by the training should be addressed.

c. Customized Training

Candidate designs a training plan customized specifically for the user that is to be trained. The plan should include: *goal(s)* of the 1 hour training, *objectives* for each section or topic being trained and allocated timeframe for each, a listing of training materials, procedural steps for the training that integrate evidence-based strategies and data collection, and additional resources for the user to take with them following the training.

d. Demonstration

Candidate records a 2-3 minute video documenting a portion of the training that shows the candidate demonstrating the use of the accommodation. The video will accompany the Instructional Plan write-up as evidence the candidate has proficiency in the use of the accommodation.

e. Reflection

Candidate provides a reflection on the implementation of the training from both the candidate/instructor and the user/student perspective. The reflection will also include of a listing of what would be done differently if the training were repeated, what steps should be taken if additional training was needed and what potential professional development needs that the candidate/trainer might require to provide additional training.

f. Community Impact

Candidate discusses the potential impact their accommodation training could have on individuals with disabilities, their families, their employers and communities across environments, settings and life span.

Course Policies and Expectations

Attendance/Participation

EDAT 527 is an asynchronous online course. All course materials are available on the course Blackboard site, <http://mymason.gmu.edu>. Using Blackboard, students are expected to complete assignments weekly and be engaged in course activities throughout the semester.

Late Work

In fairness to students who make the effort to submit assignments on time, there will be a 10% cost reduction per day for late assignments. (For example, a 10 point assignment will lose 1 point per day while a 40 point assignment will lose 4 points per day). At the instructor's discretion, students may be given the opportunity to resubmit an assignment. Resubmitted assignments are not eligible for full credit and a response cost of 10 percent will be assessed. Please note, assignments worth 1 point that are submitted late will receive a score of 0.

Course Expectation

- It is expected that students have continual access to a high-speed Internet connection and an active GMU email account for the duration of this course.

- Students are expected to be familiar with Blackboard features including downloading materials and submitting assignments. Students are expected to know their Blackboard username and password and to actively monitor the email account that is currently registered in Blackboard. Students who are experiencing problems using the Blackboard system must contact the instructor prior to the date an assignment is due for assistance.
- Please type ALL assignments unless otherwise noted. Please contact the instructor if you are using a word processing program other than Microsoft Word.
- All assignments must be posted to the Discussion Board or submitted through the "Assignment" session in Blackboard by 11:59 pm on the day the assignment is due (unless otherwise noted by the instructor) to be considered for full credit. Please note that Blackboard places a timestamp on all submitted material. If Blackboard is down for any reason at the time an assignment is due, you should email a copy of your assignment to the instructor. However, you should only email the instructor your assignment if Blackboard is down. If you not available on the day an assignment is due, you are expected to submit that assignment early to be considered for full credit.
- All assignments should reflect graduate-level spelling, syntax, and grammar and will be graded accordingly. If you experience difficulties with the writing process you will need to document your work with the GMU Writing Center during this course to improve your skills.
- All references including Online references must be cited in proper APA format to avoid plagiarism (cut&paste is easy to do from the Internet).

Instructor – Student Communication.

The easiest and best way to contact me is through email. I will respond to your emails within 48 hours, if not sooner, on weekdays. If I will be away from email for more than two days, I will post an announcement on Blackboard.

Grading Scale

Evaluation will be based upon a point system. The point value for each assignment is as follows:

Weekly Online Modules.....	40
ADL Device Comparison.....	10
Environmental Home Review.....	20
Independent Living/ADL Device Instruction Project.....	30
TOTAL POINTS.....	100

The following grading scale will be used at the Graduate level:

- 95-100% = A
- 90-94% = A-
- 87-89% = B+

- 83-86% = B
- 80-82% = B-
- 70-79% = C
- < 70% = F

*Note: The George Mason University Honor Code will be strictly enforced. Students are responsible for reading and understanding the Code. “To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of the George Mason University community and with the desire for greater academic and personal achievement, we, the student members of the university community, have set forth this honor code: Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.” Work submitted must be your own or with proper citations (see <https://catalog.gmu.edu/policies/honor-code-system/>).

Professional Dispositions

Students are expected to exhibit professional behaviors and dispositions at all times. See <https://cehd.gmu.edu/students/polices-procedures/>.

Class Schedule

*Note: Faculty reserves the right to alter the schedule as necessary, with notification to students.

Modules	Topic	Readings and Activities/Assignments due
Module 1 May 21 – May 27	Introduction to Assistive Technology for Independent Living & Employment	<u>Readings:</u> Duffy (2016) Chapter 5 & Additional readings provided on Bb <u>Due:</u> Module 1 Activity (May 27)
Module 2 May 28 – June 3	<ul style="list-style-type: none"> • Laws and Regulations • Effective Accommodation Practice 	<u>Readings:</u> Posted on Bb <u>Due:</u> Module 2 Activity (June 3)
Module 3 June 4 – June 10	Activities of Daily Living (ADL) - Hygiene, Toileting, Eating & Dressing aids	<u>Readings:</u> Duffy (2016) Chapter 2, pp 77-92, pp 98-102, & Additional readings provided on Bb <u>Due:</u> Module 3 Activity (June 10)
Module 4 June 11 – June 17	Mobility Aids & Transportation	<u>Readings:</u> Duffy (2016) Chapter 4 & Additional readings provided on Bb <u>Due:</u> Module 4 Activity (June 17) ADL Device Comparison Assignment (10 points) – June 17

<p>Module 5 June 18 – June 24</p>	<ul style="list-style-type: none"> • Workstation Ergonomics • Access to the Workplace for People with Mobility Impairments 	<p><u>Readings:</u> Duffy (2016) pp 102-113 & Additional readings provided on Bb <u>Due:</u> Module 5 Activity (June 24)</p>
<p>Module 6 June 25 – July 1</p>	<p>Communication Aids</p>	<p><u>Readings:</u> Posted on Bb <u>Due:</u> Module 6 Activity (July 1)</p> <p>Start brainstorming for your final project.</p>
<p>Module 7 July 2 - July 8</p>	<ul style="list-style-type: none"> • Safety, Medication & Meal Preparation • Housekeeping & Managing Money 	<p><u>Readings:</u> Duffy (2016) pp 77-86, pp 92-96 & pp 118-138. Additional readings provided on Bb <u>Due:</u> Module 7 Activity (July 8)</p> <p>Complete brainstorming and start implementing your final project.</p>
<p>Module 8 July 9 – July 15</p>	<p>ADL Evaluation & Implementation</p>	<p><u>Readings:</u> Posted on Bb <u>Due:</u> Module 8 Activity (July 15)</p> <p>Environmental Workplace Review Assignment (20 points) – July 15</p> <p>Continue implementing your final project.</p>
<p>Module 9 July 16 – July 27</p>	<p>Final Project Implementation</p> <p>Please note: You will receive a notification to your GMU email when the official course evaluation is available for this course. The release date for the evaluation is not in our control, but my assumption is that it will be released the second or third week of July, but could be sooner.</p>	<p><u>Due:</u> Independent Living Device or Workplace Accommodation Instruction Project (30 points) – July 27</p>

Core Values Commitment

The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles: <http://cehd.gmu.edu/values/>

GMU Policies and Resources for Students

Policies

- Students must adhere to the guidelines of the Mason Honor Code (see <https://catalog.gmu.edu/policies/honor-code-system/>).
- Students must follow the university policy for Responsible Use of Computing (see <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>).
- Students are responsible for the content of university communications sent to their Mason email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students **solely** through their Mason email account.
- Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor (see <http://ods.gmu.edu/>).
- Students must silence all sound emitting devices during class unless otherwise authorized by the instructor.

Campus Resources

- Support for submission of assignments to Tk20 should be directed to tk20help@gmu.edu or <https://cehd.gmu.edu/aero/tk20>. Questions or concerns regarding use of Blackboard should be directed to <http://coursessupport.gmu.edu/>.
- For information on student support resources on campus, see <https://ctfe.gmu.edu/teaching/student-support-resources-on-campus>

For additional information on the College of Education and Human Development, please visit our website <https://cehd.gmu.edu/students/>.

Appendix

Assessment Rubric(s)

EDAT 527 Independent Living Device/Workplace Accommodation Instruction Project Rubric

	Does Not Meet Expectations 1	Meets Expectations 2	Exceeds Expectations 3
Device Overview	Candidate fails to identify accommodations	Candidate identifies accommodations to provide personalized	Candidate identifies accommodations to provide personalized

AT Program Standard 2	developed to specifically provide personalized supports for individuals with exceptional needs.	supports for individuals with exceptional needs.	supports for individuals with exceptional needs across the environment, settings and the life span.
User Characteristics and Needs AT Program Standard 1	Candidate fails to identify specific and related characteristics of users who could benefit from the specified accommodations and/or fails to consider how issues of human diversity can impact individuals, families, communities, and cultures, and how these complex human issues can interact with issues in the delivery of accommodations.	Candidate identifies specific characteristics of users who could benefit from the specified accommodations. Candidate considers how issues of human diversity can impact individuals, families, communities, and cultures, and how these complex human issues can interact with issues in the delivery of accommodations.	Candidate identifies specific characteristics of users who could benefit from the specified accommodations based on their understanding of exceptional conditions or other human factors. Candidate considers how issues of human diversity can impact individuals, families, communities, and cultures, and how these complex human issues can interact with issues in the delivery of accommodations.
Customized Training Plan AT Program Standards 2 & 3	Candidate fails to identify and match appropriate accommodations based on individual and environmental needs. Candidate's plans to implement and monitor outcomes of interventions are limited and do not necessarily plan to	Candidate identifies and matches appropriate accommodations based on individual and environmental needs. Candidate develops and report plans to implement and monitor outcomes of interventions and reevaluate and adjust	Candidate identifies and matches appropriate accommodations based on individual and environmental needs while also considering personal interests, preferences, values and cultural influences. Candidate develops and report plans to implement

	reevaluate and adjust the system as needed. Candidate fails to utilize evidence-based strategies to develop personalized supports for individuals with exceptional needs. Candidate does not identify placement of devices and positioning of the individual to optimize the use of the accommodations.	the accommodations as needed. Candidate utilizes evidence-based strategies to develop personalized supports for individuals with exceptional needs. If applicable, candidate identifies placement of devices and positioning of the individual to optimize the use of the accommodations.	and monitor outcomes of interventions and reevaluate and adjust the accommodations as needed. Candidate utilizes evidence-based strategies to develop personalized supports for individuals with exceptional needs across environments, settings, and the life span. If applicable, candidate identifies placement of devices and positioning of the individual to optimize the use of the accommodations.
Customized Training Implementation AT Program Standard 4	Candidate fails to apply knowledge and skills to identify specific user needs, develop, and customize accommodations and strategies that are meaningful and useful to individuals with exceptional needs, their families, and/or their community of support.	Candidate applies knowledge and skills to identify user needs, develop, and customize accommodations and strategies that are meaningful and useful to individuals with exceptional needs, their families, and/or their community of support.	Candidate applies knowledge and skills to identify user needs, develop, and customize a range of accommodations and strategies that are meaningful and useful to individuals with exceptional needs as well as their families, and community of support.
Demonstration AT Program Standard 2	Candidate does not demonstrate knowledgeable of and proficiency in use of accommodations.	Candidate is knowledgeable of and demonstrates proficiency in use of accommodations.	Candidate is knowledgeable of and demonstrates proficiency in use of accommodations and evidence-based

			strategies to develop personalized supports
Reflection AT Program Standard 5	Candidate fails to promote and advocate for the benefits of continued implementation of accommodations and strategies for individuals with exceptional needs. Candidate fails to identify specific and relevant professional development opportunities to acquire knowledge and skills about new developments in accommodations.	Candidate promotes and advocate for the benefits of continued implementation of accommodations and strategies for individuals with exceptional needs. Candidate identifies ongoing professional development opportunities to acquire knowledge and skills about new developments in accommodations.	Candidate promotes and advocate for the benefits of continued implementation of accommodations and strategies for individuals with exceptional needs across a wide range of workplace settings and based on various needs. Candidate identifies ongoing professional development to acquire knowledge and skills about new developments in accommodations, which may include participation in activities of professional organizations relevant to the field of assistive technology.
Community Impact AT Program Standard 1	Candidate provides a limited discussion that does not specifically address the impact accommodations can have on individuals with exceptional needs within various cultures and communities.	Candidate discusses the impact accommodations can have on individuals with exceptional needs within various cultures and communities.	Candidate discusses the impact accommodations can have on individuals with exceptional needs and their families within various diverse cultures and communities.